



Fire Suppression			21
Water-Based Fire-Suppression Systems			21 10
Fire-Suppression Sprinkler Systems			21 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0153	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Extended Coverage, Horizontal Sidewall White Wet Pipe Sprinkler Head.....	95.26	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.52	
			For >100 To 500, Deduct	-13.28	
			For >500 To 1,000, Deduct	-26.50	
			For >1,000, Deduct	-37.51	
21 13 13 00-0154	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Extended Coverage, Horizontal Sidewall Brass Wet Pipe Sprinkler Head.....	92.41	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.37	
			For >100 To 500, Deduct	-12.93	
			For >500 To 1,000, Deduct	-25.99	
			For >1,000, Deduct	-37.00	
21 13 13 00-0155	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Extended Coverage, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head.....	94.71	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.49	
			For >100 To 500, Deduct	-13.21	
			For >500 To 1,000, Deduct	-26.40	
			For >1,000, Deduct	-37.41	
21 13 13 00-0156	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, 300 PSI Rated, Extended Coverage, Horizontal Sidewall White Wet Pipe Sprinkler Head.....	97.20	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.61	
			For >100 To 500, Deduct	-13.53	
			For >500 To 1,000, Deduct	-26.85	
			For >1,000, Deduct	-37.86	
21 13 13 00-0157	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Extended Coverage, Horizontal Sidewall Brass Wet Pipe Sprinkler Head.....	97.24	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.61	
			For >100 To 500, Deduct	-13.53	
			For >500 To 1,000, Deduct	-26.86	
			For >1,000, Deduct	-37.87	
21 13 13 00-0158	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Extended Coverage, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head.....	100.63	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.78	
			For >100 To 500, Deduct	-13.95	
			For >500 To 1,000, Deduct	-27.47	
			For >1,000, Deduct	-38.48	
21 13 13 00-0159	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Extended Coverage, Horizontal Sidewall White Wet Pipe Sprinkler Head.....	100.63	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-7.78	
			For >100 To 500, Deduct	-13.95	
			For >500 To 1,000, Deduct	-27.47	
			For >1,000, Deduct	-38.48	
21 13 13 00-0160	EA		1/2" NPT Thread, 1/2" Orifice, Decorative Horizontal Sidewall Chrome Wet Pipe Sprinkler Head.....	165.31	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-10.74	
			For >100 To 500, Deduct	-21.90	
			For >500 To 1,000, Deduct	-38.18	
			For >1,000, Deduct	-48.08	
21 13 13 00-0161	EA		1/2" NPT Thread, 1/2" Orifice, Decorative Horizontal Sidewall White Wet Pipe Sprinkler Head.....	165.31	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-10.74	
			For >100 To 500, Deduct	-21.90	
			For >500 To 1,000, Deduct	-38.18	
			For >1,000, Deduct	-48.08	
21 13 13 00-0162	EA		1/2" NPT Thread, K=5.6, High Temperature (360 Degree), Horizontal Sidewall Brass Wet Pipe Sprinkler Head.....	83.58	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.66	
			For >100 To 500, Deduct	-11.69	
			For >500 To 1,000, Deduct	-23.46	
			For >1,000, Deduct	-33.37	
21 13 13 00-0163	EA		1/2" NPT Thread, K=5.6, High Temperature (360 Degree), Horizontal Sidewall Chrome Wet Pipe Sprinkler Head.....	83.58	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.66	
			For >100 To 500, Deduct	-11.69	
			For >500 To 1,000, Deduct	-23.46	
			For >1,000, Deduct	-33.37	
21 13 13 00-0164	EA		1/2" NPT Thread, K=5.6, High Temperature (360 Degree), Horizontal Sidewall White Wet Pipe Sprinkler Head.....	83.58	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.66	
			For >100 To 500, Deduct	-11.69	
			For >500 To 1,000, Deduct	-23.46	
			For >1,000, Deduct	-33.37	
21 13 13 00-0165			Vertical Sidewall Wet-Pipe Sprinkler Heads (21 13 13 00-0132)		
21 13 13 00-0166	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Vertical Sidewall Brass Wet Pipe Sprinkler Head.....	88.09	12.38
			For >25 To 50, Deduct	-2.48	
			For >50 To 100, Deduct	-6.88	
			For >100 To 500, Deduct	-12.25	
			For >500 To 1,000, Deduct	-24.28	
			For >1,000, Deduct	-34.18	

21 Fire Suppression**21 10 Water-Based Fire-Suppression Systems****21 13 Fire-Suppression Sprinkler Systems**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0167	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Vertical Sidewall Chrome Wet Pipe Sprinkler Head	91.21	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-7.04	
			For>100 To 500, Deduct	-12.64	
			For>500 To 1,000, Deduct	-24.84	
			For>1,000, Deduct	-34.74	
21 13 13 00-0168	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Vertical Sidewall White Wet Pipe Sprinkler Head	92.55	12.38
			For>25 To 50, Deduct	-2.48	
			For>50 To 100, Deduct	-7.10	
			For>100 To 500, Deduct	-12.81	
			For>500 To 1,000, Deduct	-25.08	
			For>1,000, Deduct	-34.99	
21 13 13 00-0169			Concealed Wet Pipe Sprinkler Heads (21 13 13 00-0024)		
21 13 13 00-0170			Concealed Pendant Wet-Pipe Sprinkler Heads (21 13 13 00-0169)		
21 13 13 00-0171	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Concealed Pendent Brass Wet Pipe Sprinkler Head, Low Lead	127.37	16.51
			Note: Excludes coverplate		
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-9.67	
			For>100 To 500, Deduct	-17.57	
			For>500 To 1,000, Deduct	-34.15	
			For>1,000, Deduct	-47.36	
21 13 13 00-0172	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Concealed Pendent Brass Wet Pipe Sprinkler Head	90.76	16.51
			Note: Excludes coverplate		
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-7.84	
			For>100 To 500, Deduct	-13.00	
			For>500 To 1,000, Deduct	-27.56	
			For>1,000, Deduct	-40.77	
21 13 13 00-0173	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Concealed Pendent Brass Wet Pipe Sprinkler Head	92.10	16.51
			Note: Excludes coverplate		
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-7.91	
			For>100 To 500, Deduct	-13.16	
			For>500 To 1,000, Deduct	-27.80	
			For>1,000, Deduct	-41.01	
21 13 13 00-0174	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Concealed Pendent Brass Wet Pipe Sprinkler Head	115.76	17.89
			Note: Excludes coverplate		
			For>25 To 50, Deduct	-3.58	
			For>50 To 100, Deduct	-9.37	
			For>100 To 500, Deduct	-16.26	
			For>500 To 1,000, Deduct	-33.00	
			For>1,000, Deduct	-47.31	
21 13 13 00-0175	EA		1/2" NPT Thread, 7/16" Orifice, K=4.2, Concealed Pendent Brass Wet Pipe Sprinkler Head	110.25	16.51
			Note: Excludes coverplate		
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-8.81	
			For>100 To 500, Deduct	-15.43	
			For>500 To 1,000, Deduct	-31.07	
			For>1,000, Deduct	-44.28	
21 13 13 00-0176	EA		1/2" NPT Thread, 3/8" Orifice, K=2.8, Concealed Pendent Brass Wet Pipe Sprinkler Head	110.25	16.51
			Note: Excludes coverplate		
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-8.81	
			For>100 To 500, Deduct	-15.43	
			For>500 To 1,000, Deduct	-31.07	
			For>1,000, Deduct	-44.28	
21 13 13 00-0177	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Concealed Pendent Brass Wet Pipe Sprinkler Head	115.76	17.89
			Note: Excludes coverplate		
			For>25 To 50, Deduct	-3.58	
			For>50 To 100, Deduct	-9.37	
			For>100 To 500, Deduct	-16.26	
			For>500 To 1,000, Deduct	-33.00	
			For>1,000, Deduct	-47.31	
21 13 13 00-0178	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Concealed Pendent Brass Wet Pipe Sprinkler Head	101.68	16.51
			Note: Excludes coverplate		
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-8.39	
			For>100 To 500, Deduct	-14.36	
			For>500 To 1,000, Deduct	-29.53	
			For>1,000, Deduct	-42.74	
21 13 13 00-0179	EA		1/2" NPT Thread, 7/16" Orifice, K=4.2, Quick Response, Concealed Pendent Brass Wet Pipe Sprinkler Head	110.25	16.51
			Note: Excludes coverplate		
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-8.81	
			For>100 To 500, Deduct	-15.43	
			For>500 To 1,000, Deduct	-31.07	
			For>1,000, Deduct	-44.28	
21 13 13 00-0180	EA		1/2" NPT Thread, 3/8" Orifice, K=2.8, Quick Response, Concealed Pendent Brass Wet Pipe Sprinkler Head	110.25	16.51
			Note: Excludes coverplate		
			For>25 To 50, Deduct	-3.30	
			For>50 To 100, Deduct	-8.81	
			For>100 To 500, Deduct	-15.43	
			For>500 To 1,000, Deduct	-31.07	
			For>1,000, Deduct	-44.28	



Fire Suppression			21
Water-Based Fire-Suppression Systems			21 10
Fire-Suppression Sprinkler Systems			21 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0181	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Quick Response, Concealed Pendent Brass Wet Pipe Sprinkler Head.....	103.71	16.51
			Note: Excludes coverplate		
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-8.49	
			For >100 To 500, Deduct	-14.61	
			For >500 To 1,000, Deduct	-29.89	
			For >1,000, Deduct	-43.10	
21 13 13 00-0182	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Adjustable Concealed Pendent Brass Wet Pipe Sprinkler Head.....	172.30	19.27
			Note: Excludes coverplate		
			For >25 To 50, Deduct	-3.85	
			For >50 To 100, Deduct	-12.47	
			For >100 To 500, Deduct	-23.46	
			For >500 To 1,000, Deduct	-44.11	
			For >1,000, Deduct	-59.52	
21 13 13 00-0183	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Extended Coverage, Concealed Pendent Brass Wet Pipe Sprinkler Head.....	97.42	16.51
			Note: Excludes coverplate		
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-8.17	
			For >100 To 500, Deduct	-13.83	
			For >500 To 1,000, Deduct	-28.76	
			For >1,000, Deduct	-41.97	
21 13 13 00-0184	EA		3/4" NPT Thread, 17/32" Orifice, K=5.6, Extended Coverage, Concealed Pendent Brass Wet Pipe Sprinkler Head.....	102.37	17.89
			Note: Excludes coverplate		
			For >25 To 50, Deduct	-3.58	
			For >50 To 100, Deduct	-8.70	
			For >100 To 500, Deduct	-14.59	
			For >500 To 1,000, Deduct	-30.59	
			For >1,000, Deduct	-44.90	
21 13 13 00-0185	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, 300 PSI Rated, Extended Coverage, Concealed Pendent Brass Wet Pipe Sprinkler Head.....	98.62	16.51
			Note: Excludes coverplate		
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-8.23	
			For >100 To 500, Deduct	-13.98	
			For >500 To 1,000, Deduct	-28.98	
			For >1,000, Deduct	-42.19	
21 13 13 00-0186	EA		3/4" NPT Thread, 17/32" Orifice, K=5.6, 300 PSI Rated, Extended Coverage, Concealed Pendent Brass Wet Pipe Sprinkler Head.....	104.13	17.89
			Note: Excludes coverplate		
			For >25 To 50, Deduct	-3.58	
			For >50 To 100, Deduct	-8.78	
			For >100 To 500, Deduct	-14.81	
			For >500 To 1,000, Deduct	-30.91	
			For >1,000, Deduct	-45.22	
21 13 13 00-0187	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Extended Coverage, Concealed Pendent Brass Wet Pipe Sprinkler Head.....	116.32	17.89
			Note: Excludes coverplate		
			For >25 To 50, Deduct	-3.58	
			For >50 To 100, Deduct	-9.39	
			For >100 To 500, Deduct	-16.33	
			For >500 To 1,000, Deduct	-33.10	
			For >1,000, Deduct	-47.41	
21 13 13 00-0188	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Concealed Pendent Non-Ferrous Sprinkler Head With Escutcheon And Adjustable Chrome Coverplate.....	200.08	19.27
			For >25 To 50, Deduct	-3.85	
			For >50 To 100, Deduct	-13.86	
			For >100 To 500, Deduct	-26.94	
			For >500 To 1,000, Deduct	-49.11	
			For >1,000, Deduct	-64.52	
21 13 13 00-0189	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Concealed Pendent Non-Ferrous Sprinkler Head With Escutcheon And Adjustable White Coverplate.....	200.08	19.27
			For >25 To 50, Deduct	-3.85	
			For >50 To 100, Deduct	-13.86	
			For >100 To 500, Deduct	-26.94	
			For >500 To 1,000, Deduct	-49.11	
			For >1,000, Deduct	-64.52	
21 13 13 00-0190			Concealed Horizontal Side Wall Wet-Pipe Sprinkler Heads (21 13 13 00-0189)		
21 13 13 00-0191	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Concealed Horizontal Sidewall Brass Wet Pipe Sprinkler Head.....	137.55	16.51
			Note: Excludes coverplate		
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-10.18	
			For >100 To 500, Deduct	-18.84	
			For >500 To 1,000, Deduct	-35.99	
			For >1,000, Deduct	-49.19	
21 13 13 00-0192	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Concealed Horizontal Sidewall Brass Wet Pipe Sprinkler Head.....	154.98	17.89
			Note: Excludes coverplate		
			For >25 To 50, Deduct	-3.58	
			For >50 To 100, Deduct	-11.33	
			For >100 To 500, Deduct	-21.16	
			For >500 To 1,000, Deduct	-40.06	
			For >1,000, Deduct	-54.37	

21 Fire Suppression**21 10 Water-Based Fire-Suppression Systems****21 13 Fire-Suppression Sprinkler Systems**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0193	EA		1/2" NPT Thread, 1/2" Orifice, K=5.6, Quick Response, Extended Coverage, Concealed Horizontal Sidewall Brass Wet Pipe Sprinkler Head 107.78	107.78	16.51
			Note: Excludes coverplate		
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-8.69	
			For >100 To 500, Deduct	-15.12	
			For >500 To 1,000, Deduct	-30.63	
			For >1,000, Deduct	-43.84	
21 13 13 00-0194	EA		3/4" NPT Thread, 17/32" Orifice, K=8.0, Quick Response, Extended Coverage, Concealed Horizontal Sidewall Brass Wet Pipe Sprinkler Head 108.76	108.76	17.89
			Note: Excludes coverplate		
			For >25 To 50, Deduct	-3.58	
			For >50 To 100, Deduct	-9.02	
			For >100 To 500, Deduct	-15.38	
			For >500 To 1,000, Deduct	-31.74	
			For >1,000, Deduct	-46.05	
21 13 13 00-0195			Institutional Tamper Resistant Wet Pipe Sprinkler Heads (21 13 13 00-0024)		
21 13 13 00-0196	EA		1/2" NPT Thread, K=5.6, Institutional Tamper Resistant, Pendant Chrome Wet Pipe Sprinkler Head 332.01	332.01	13.75
			Note: Complete assembly including escutcheon, spacers, retaining flange, and centering grommet.		
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-19.35	
			For >100 To 500, Deduct	-42.88	
			For >500 To 1,000, Deduct	-69.12	
			For >1,000, Deduct	-80.13	
21 13 13 00-0197	EA		1/2" NPT Thread, K=5.6, Institutional Tamper Resistant, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head 324.01	324.01	13.75
			Note: Complete assembly including escutcheon, spacers, retaining flange, and centering grommet.		
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-18.95	
			For >100 To 500, Deduct	-41.88	
			For >500 To 1,000, Deduct	-67.68	
			For >1,000, Deduct	-78.69	
21 13 13 00-0198	EA		1/2" NPT Thread, K=5.6, Quick Response, Institutional Tamper Resistant, Pendant Chrome Wet Pipe Sprinkler Head 139.73	139.73	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-9.74	
			For >100 To 500, Deduct	-18.84	
			For >500 To 1,000, Deduct	-34.51	
			For >1,000, Deduct	-45.52	
21 13 13 00-0199	EA		1/2" NPT Thread, K=5.6, Quick Response, Institutional Tamper Resistant, Horizontal Sidewall Chrome Wet Pipe Sprinkler Head 156.33	156.33	13.75
			For >25 To 50, Deduct	-2.75	
			For >50 To 100, Deduct	-10.57	
			For >100 To 500, Deduct	-20.92	
			For >500 To 1,000, Deduct	-37.50	
			For >1,000, Deduct	-48.50	
21 13 13 00-0200			Wet Pipe Sprinkler Head Accessories (21 13 13 00-0011)		
21 13 13 00-0201			Sprinkler Adjustable Steel Drop Nipple (21 13 13 00-0200)		
21 13 13 00-0202	EA		1" Male NPT x 1/2" Female NPT x 4.125" Minimum Length To 5.125" Maximum Length, Adjustable Steel Drop Nipple (Anvil M1.150) 55.39	55.39	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.94	
			For >100 To 500, Deduct	-7.51	
			For >500 To 1,000, Deduct	-13.95	
			For >1,000, Deduct	-18.64	
21 13 13 00-0203	EA		1" Male NPT x 1/2" Female NPT x 6.125" Minimum Length To 9.125" Maximum Length, Adjustable Steel Drop Nipple (Anvil M3.150) 55.39	55.39	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.94	
			For >100 To 500, Deduct	-7.51	
			For >500 To 1,000, Deduct	-13.95	
			For >1,000, Deduct	-18.64	
21 13 13 00-0204	EA		1" Male NPT x 1/2" Female NPT x 7.875" Minimum Length To 10.875" Maximum Length, Adjustable Steel Drop Nipple (Anvil ME3.150) 56.04	56.04	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.97	
			For >100 To 500, Deduct	-7.59	
			For >500 To 1,000, Deduct	-14.07	
			For >1,000, Deduct	-18.76	
21 13 13 00-0205	EA		1" Female NPT x 1/2" Female NPT x 3.5" Minimum Length To 4.5" Maximum Length, Adjustable Steel Drop Nipple (Anvil F1.150) 49.31	49.31	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.64	
			For >100 To 500, Deduct	-6.75	
			For >500 To 1,000, Deduct	-12.86	
			For >1,000, Deduct	-17.54	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0206	EA		1" Female NPT x 1/2" Female NPT x 4.5" Minimum Length To 6.5" Maximum Length, Adjustable Steel Drop Nipple (Anvil F2.150).....	49.31	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.64	
			For >100 To 500, Deduct	-6.75	
			For >500 To 1,000, Deduct	-12.86	
			For >1,000, Deduct	-17.54	
21 13 13 00-0207	EA		1" Female NPT x 1/2" Female NPT x 5.5" Minimum Length To 8.5" Maximum Length, Adjustable Steel Drop Nipple (Anvil F3.150).....	49.31	14.05
			For >25 To 50, Deduct	-1.17	
			For >50 To 100, Deduct	-3.64	
			For >100 To 500, Deduct	-6.75	
			For >500 To 1,000, Deduct	-12.86	
			For >1,000, Deduct	-17.54	
21 13 13 00-0208	EA		1" Female NPT x 3/4" Female NPT x 7.35" Minimum Length To 10.35" Maximum Length, Adjustable Steel Drop Nipple (Anvil F3.175).....	55.12	15.28
			For >25 To 50, Deduct	-1.27	
			For >50 To 100, Deduct	-4.03	
			For >100 To 500, Deduct	-7.53	
			For >500 To 1,000, Deduct	-14.25	
			For >1,000, Deduct	-19.35	
21 13 13 00-0209			Sprinkler Head Escutcheon (21 13 13 00-0200)		
21 13 13 00-0210	EA		2-7/8" Diameter x 1-1/8" Depth, Two Piece, 1/2" NPT, Brass Sprinkler Head Recessed Escutcheon.....	21.35	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.48	
			For >100 To 500, Deduct	-2.88	
			For >500 To 1,000, Deduct	-5.25	
			For >1,000, Deduct	-6.90	
21 13 13 00-0211	EA		2-7/8" Diameter x 1-1/8" Depth, Two Piece, 1/2" NPT, Chrome Sprinkler Head Recessed Escutcheon.....	14.74	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.15	
			For >100 To 500, Deduct	-2.05	
			For >500 To 1,000, Deduct	-4.06	
			For >1,000, Deduct	-5.71	
21 13 13 00-0212	EA		2-7/8" Diameter x 1-1/8" Depth, Two Piece, 1/2" NPT, White Sprinkler Head Recessed Escutcheon.....	14.74	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.15	
			For >100 To 500, Deduct	-2.05	
			For >500 To 1,000, Deduct	-4.06	
			For >1,000, Deduct	-5.71	
21 13 13 00-0213	EA		2-7/8" Diameter x 1-1/8" Depth, Two Piece, 3/4" NPT, Brass Sprinkler Head Recessed Escutcheon.....	21.35	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.48	
			For >100 To 500, Deduct	-2.88	
			For >500 To 1,000, Deduct	-5.25	
			For >1,000, Deduct	-6.90	
21 13 13 00-0214	EA		2-7/8" Diameter x 1-1/8" Depth, Two Piece, 3/4" NPT, Chrome Sprinkler Head Recessed Escutcheon.....	14.74	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.15	
			For >100 To 500, Deduct	-2.05	
			For >500 To 1,000, Deduct	-4.06	
			For >1,000, Deduct	-5.71	
21 13 13 00-0215	EA		2-7/8" Diameter x 1-1/8" Depth, Two Piece, 3/4" NPT, White Sprinkler Head Recessed Escutcheon.....	14.74	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.15	
			For >100 To 500, Deduct	-2.05	
			For >500 To 1,000, Deduct	-4.06	
			For >1,000, Deduct	-5.71	
21 13 13 00-0216	EA		2-7/8" Diameter x 7/8" Depth, Two Piece, 1/2" NPT, Brass Sprinkler Head Recessed Escutcheon.....	20.15	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.42	
			For >100 To 500, Deduct	-2.73	
			For >500 To 1,000, Deduct	-5.03	
			For >1,000, Deduct	-6.68	
21 13 13 00-0217	EA		2-7/8" Diameter x 7/8" Depth, Two Piece, 1/2" NPT, Chrome Sprinkler Head Recessed Escutcheon.....	14.74	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.15	
			For >100 To 500, Deduct	-2.05	
			For >500 To 1,000, Deduct	-4.06	
			For >1,000, Deduct	-5.71	
21 13 13 00-0218	EA		2-7/8" Diameter x 7/8" Depth, Two Piece, 1/2" NPT, White Sprinkler Head Recessed Escutcheon.....	14.74	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.15	
			For >100 To 500, Deduct	-2.05	
			For >500 To 1,000, Deduct	-4.06	
			For >1,000, Deduct	-5.71	
21 13 13 00-0219	EA		2-7/8" Diameter x 7/8" Depth, Two Piece, 3/4" NPT, Brass Sprinkler Head Recessed Escutcheon.....	20.15	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.42	
			For >100 To 500, Deduct	-2.73	
			For >500 To 1,000, Deduct	-5.03	
			For >1,000, Deduct	-6.68	

21 Fire Suppression**21 10 Water-Based Fire-Suppression Systems****21 13 Fire-Suppression Sprinkler Systems**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0220	EA		2-7/8" Diameter x 7/8" Depth, Two Piece, 3/4" NPT, Chrome Sprinkler Head Recessed Escutcheon	14.74	4.96
			For>25 To 50, Deduct	-0.41	
			For>50 To 100, Deduct	-1.15	
			For>100 To 500, Deduct	-2.05	
			For>500 To 1,000, Deduct	-4.06	
			For>1,000, Deduct	-5.71	
21 13 13 00-0221	EA		2-7/8" Diameter x 7/8" Depth, Two Piece, 3/4" NPT, White Sprinkler Head Recessed Escutcheon	14.74	4.96
			For>25 To 50, Deduct	-0.41	
			For>50 To 100, Deduct	-1.15	
			For>100 To 500, Deduct	-2.05	
			For>500 To 1,000, Deduct	-4.06	
			For>1,000, Deduct	-5.71	
21 13 13 00-0222	EA		3-7/32" Diameter x 15/16" Depth, Two Piece, 1/2" NPT, Push-On/Thread-Off Chrome Sprinkler Head Recessed Escutcheon	20.75	4.96
			For>25 To 50, Deduct	-0.41	
			For>50 To 100, Deduct	-1.45	
			For>100 To 500, Deduct	-2.80	
			For>500 To 1,000, Deduct	-5.14	
			For>1,000, Deduct	-6.79	
21 13 13 00-0223	EA		3-7/32" Diameter x 15/16" Depth, Two Piece, 1/2" NPT, Push-On/Thread-Off White Sprinkler Head Recessed Escutcheon	20.75	4.96
			For>25 To 50, Deduct	-0.41	
			For>50 To 100, Deduct	-1.45	
			For>100 To 500, Deduct	-2.80	
			For>500 To 1,000, Deduct	-5.14	
			For>1,000, Deduct	-6.79	
21 13 13 00-0224	EA		2-7/8" Diameter x 11/16" Depth, One Piece, 1/2" NPT, Brass Sprinkler Head Escutcheon	8.15	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.68	
			For>100 To 500, Deduct	-1.16	
			For>500 To 1,000, Deduct	-2.40	
			For>1,000, Deduct	-3.50	
21 13 13 00-0225	EA		2-7/8" Diameter x 11/16" Depth, One Piece, 1/2" NPT, Chrome Sprinkler Head Escutcheon	7.32	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.64	
			For>100 To 500, Deduct	-1.05	
			For>500 To 1,000, Deduct	-2.25	
			For>1,000, Deduct	-3.35	
21 13 13 00-0226	EA		2-7/8" Diameter x 11/16" Depth, One Piece, 1/2" NPT, White Sprinkler Head Escutcheon	7.54	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.65	
			For>100 To 500, Deduct	-1.08	
			For>500 To 1,000, Deduct	-2.29	
			For>1,000, Deduct	-3.39	
21 13 13 00-0227	EA		2-7/8" Diameter x 11/16" Depth, One Piece, 3/4" NPT, Brass Sprinkler Head Escutcheon	8.30	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.69	
			For>100 To 500, Deduct	-1.18	
			For>500 To 1,000, Deduct	-2.43	
			For>1,000, Deduct	-3.53	
21 13 13 00-0228	EA		2-7/8" Diameter x 11/16" Depth, One Piece, 3/4" NPT, Chrome Sprinkler Head Escutcheon	7.47	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.65	
			For>100 To 500, Deduct	-1.07	
			For>500 To 1,000, Deduct	-2.28	
			For>1,000, Deduct	-3.38	
21 13 13 00-0229	EA		2-7/8" Diameter x 11/16" Depth, One Piece, 3/4" NPT, White Sprinkler Head Escutcheon	7.47	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.65	
			For>100 To 500, Deduct	-1.07	
			For>500 To 1,000, Deduct	-2.28	
			For>1,000, Deduct	-3.38	
21 13 13 00-0230	EA		2-7/8" Diameter x 1/8" Depth, One Piece, 1/2" NPT, Bright Brass Sprinkler Head Escutcheon	9.16	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.73	
			For>100 To 500, Deduct	-1.28	
			For>500 To 1,000, Deduct	-2.58	
			For>1,000, Deduct	-3.68	
21 13 13 00-0231	EA		2-7/8" Diameter x 1/8" Depth, One Piece, 1/2" NPT, Chrome Sprinkler Head Escutcheon	7.44	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.65	
			For>100 To 500, Deduct	-1.07	
			For>500 To 1,000, Deduct	-2.27	
			For>1,000, Deduct	-3.37	
21 13 13 00-0232	EA		2-7/8" Diameter x 1/8" Depth, One Piece, 1/2" NPT, White Sprinkler Head Escutcheon	7.44	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.65	
			For>100 To 500, Deduct	-1.07	
			For>500 To 1,000, Deduct	-2.27	
			For>1,000, Deduct	-3.37	
21 13 13 00-0233	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 1/2" NPT, Brass Sprinkler Head Telescoping Escutcheon	12.33	5.09
			For>25 To 50, Deduct	-0.39	
			For>50 To 100, Deduct	-1.00	
			For>100 To 500, Deduct	-1.73	
			For>500 To 1,000, Deduct	-3.53	
			For>1,000, Deduct	-5.07	



Fire Suppression			21
Water-Based Fire-Suppression Systems			21 10
Fire-Suppression Sprinkler Systems			21 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0234	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 1/2" NPT, Chrome Sprinkler Head Telescoping Escutcheon.....	11.87	5.09
			For >25 To 50, Deduct	-0.39	
			For >50 To 100, Deduct	-0.98	
			For >100 To 500, Deduct	-1.68	
			For >500 To 1,000, Deduct	-3.45	
			For >1,000, Deduct	-4.99	
21 13 13 00-0235	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 1/2" NPT, White Sprinkler Head Telescoping Escutcheon.....	12.02	5.09
			For >25 To 50, Deduct	-0.39	
			For >50 To 100, Deduct	-0.99	
			For >100 To 500, Deduct	-1.70	
			For >500 To 1,000, Deduct	-3.47	
			For >1,000, Deduct	-5.02	
21 13 13 00-0236	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 3/4" NPT, Brass Sprinkler Head Telescoping Escutcheon.....	12.48	5.09
			For >25 To 50, Deduct	-0.39	
			For >50 To 100, Deduct	-1.01	
			For >100 To 500, Deduct	-1.75	
			For >500 To 1,000, Deduct	-3.56	
			For >1,000, Deduct	-5.10	
21 13 13 00-0237	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 3/4" NPT, Chrome Sprinkler Head Telescoping Escutcheon.....	12.02	5.09
			For >25 To 50, Deduct	-0.39	
			For >50 To 100, Deduct	-0.99	
			For >100 To 500, Deduct	-1.70	
			For >500 To 1,000, Deduct	-3.47	
			For >1,000, Deduct	-5.02	
21 13 13 00-0238	EA		3-1/2" Diameter x 2" Minimum To 3" Maximum Depth, Two Piece, 3/4" NPT, White Sprinkler Head Telescoping Escutcheon.....	12.33	5.09
			For >25 To 50, Deduct	-0.39	
			For >50 To 100, Deduct	-1.00	
			For >100 To 500, Deduct	-1.73	
			For >500 To 1,000, Deduct	-3.53	
			For >1,000, Deduct	-5.07	
21 13 13 00-0239	EA		Flat Chrome Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	26.20	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.72	
			For >100 To 500, Deduct	-3.48	
			For >500 To 1,000, Deduct	-6.12	
			For >1,000, Deduct	-7.77	
21 13 13 00-0240	EA		Flat White Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	26.20	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.72	
			For >100 To 500, Deduct	-3.48	
			For >500 To 1,000, Deduct	-6.12	
			For >1,000, Deduct	-7.77	
21 13 13 00-0241	EA		Conical Chrome Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	26.20	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.72	
			For >100 To 500, Deduct	-3.48	
			For >500 To 1,000, Deduct	-6.12	
			For >1,000, Deduct	-7.77	
21 13 13 00-0242	EA		Conical White Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	26.20	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.72	
			For >100 To 500, Deduct	-3.48	
			For >500 To 1,000, Deduct	-6.12	
			For >1,000, Deduct	-7.77	
21 13 13 00-0243	EA		Chrome Sprinkler Head Escutcheon For Decorative Horizontal Sidewall Sprinkler Head	26.20	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.72	
			For >100 To 500, Deduct	-3.48	
			For >500 To 1,000, Deduct	-6.12	
			For >1,000, Deduct	-7.77	
21 13 13 00-0244	EA		White Sprinkler Head Escutcheon For Decorative Horizontal Sidewall Sprinkler Head	26.20	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.72	
			For >100 To 500, Deduct	-3.48	
			For >500 To 1,000, Deduct	-6.12	
			For >1,000, Deduct	-7.77	
21 13 13 00-0245	EA		2-Piece Chrome Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	30.30	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.93	
			For >100 To 500, Deduct	-3.99	
			For >500 To 1,000, Deduct	-6.86	
			For >1,000, Deduct	-8.51	
21 13 13 00-0246	EA		2-Piece White Sprinkler Head Escutcheon For Decorative Pendent Sprinkler Head	31.26	4.96
			For >25 To 50, Deduct	-0.41	
			For >50 To 100, Deduct	-1.98	
			For >100 To 500, Deduct	-4.11	
			For >500 To 1,000, Deduct	-7.03	
			For >1,000, Deduct	-8.68	

21 13 13 00-0247 Coverplate For Sprinkler Heads (21 13 13 00-0200)

21 Fire Suppression**21 10 Water-Based Fire-Suppression Systems****21 13 Fire-Suppression Sprinkler Systems**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0248	EA		Chrome Coverplate For Concealed Pendent Sprinkler Head	62.71	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-3.60	
			For>100 To 500, Deduct	-8.07	
			For>500 To 1,000, Deduct	-12.88	
			For>1,000, Deduct	-14.75	
21 13 13 00-0249	EA		White Coverplate For Concealed Pendent Sprinkler Head	30.15	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-1.98	
			For>100 To 500, Deduct	-4.00	
			For>500 To 1,000, Deduct	-7.02	
			For>1,000, Deduct	-8.89	
21 13 13 00-0250	EA		Specialty Coverplate For Concealed Pendent Sprinkler Head	44.27	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-2.68	
			For>100 To 500, Deduct	-5.77	
			For>500 To 1,000, Deduct	-9.56	
			For>1,000, Deduct	-11.43	
21 13 13 00-0251	EA		Brass Coverplate For Concealed Sidewall Sprinkler Head	40.60	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-2.50	
			For>100 To 500, Deduct	-5.31	
			For>500 To 1,000, Deduct	-8.90	
			For>1,000, Deduct	-10.77	
21 13 13 00-0252	EA		Chrome Coverplate For Concealed Sidewall Sprinkler Head	32.29	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-2.08	
			For>100 To 500, Deduct	-4.27	
			For>500 To 1,000, Deduct	-7.40	
			For>1,000, Deduct	-9.27	
21 13 13 00-0253	EA		White Coverplate For Concealed Sidewall Sprinkler Head	32.29	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-2.08	
			For>100 To 500, Deduct	-4.27	
			For>500 To 1,000, Deduct	-7.40	
			For>1,000, Deduct	-9.27	
21 13 13 00-0254	EA		Off-White Coverplate For Concealed Sidewall Sprinkler Head	40.60	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-2.50	
			For>100 To 500, Deduct	-5.31	
			For>500 To 1,000, Deduct	-8.90	
			For>1,000, Deduct	-10.77	
21 13 13 00-0255	EA		Black Painted Coverplate For Concealed Sidewall Sprinkler Head	40.60	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-2.50	
			For>100 To 500, Deduct	-5.31	
			For>500 To 1,000, Deduct	-8.90	
			For>1,000, Deduct	-10.77	
21 13 13 00-0256	EA		Black Plated Coverplate For Concealed Sidewall Sprinkler Head	47.19	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-2.83	
			For>100 To 500, Deduct	-6.13	
			For>500 To 1,000, Deduct	-10.08	
			For>1,000, Deduct	-11.95	
21 13 13 00-0257	EA		Bright Brass Coverplate For Concealed Sidewall Sprinkler Head	47.19	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-2.83	
			For>100 To 500, Deduct	-6.13	
			For>500 To 1,000, Deduct	-10.08	
			For>1,000, Deduct	-11.95	
21 13 13 00-0258	EA		Satin Chrome Coverplate For Concealed Sidewall Sprinkler Head	47.19	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-2.83	
			For>100 To 500, Deduct	-6.13	
			For>500 To 1,000, Deduct	-10.08	
			For>1,000, Deduct	-11.95	
21 13 13 00-0259	EA		Specialty Coverplate For Concealed Sidewall Sprinkler Head	40.64	5.61
			For>25 To 50, Deduct	-0.47	
			For>50 To 100, Deduct	-2.50	
			For>100 To 500, Deduct	-5.31	
			For>500 To 1,000, Deduct	-8.90	
			For>1,000, Deduct	-10.77	
21 13 13 00-0260	EA		White Coverplate For Quick Release Concealed Sidewall Sprinkler Head	69.69	6.60
			For>25 To 50, Deduct	-0.55	
			For>50 To 100, Deduct	-4.03	
			For>100 To 500, Deduct	-8.99	
			For>500 To 1,000, Deduct	-14.41	
			For>1,000, Deduct	-16.61	

21 13 13 00-0261 Sprinkler Escutcheon Extension Tube (21 13 13 00-0200)



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0262	EA		2.18" Diameter x 4" Long Stainless Steel With Chrome Or White Finish, Escutcheon Extension Tube Note: For use with 2 piece escutcheons For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	15.82 -0.28 -1.07 -2.12 -3.78 -4.88	3.31
21 13 13 00-0263	EA		2.18" Diameter x 6" Long Stainless Steel With Chrome Or White Finish, Escutcheon Extension Tube Note: For use with 2 piece escutcheons For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	20.68 -0.29 -1.32 -2.73 -4.70 -5.86	3.47
21 13 13 00-0264	EA		2.18" Diameter x 8" Long Stainless Steel With Chrome Or White Finish, Escutcheon Extension Tube Note: For use with 2 piece escutcheons For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	26.13 -0.30 -1.61 -3.42 -5.73 -6.95	3.63
21 13 13 00-0265	EA		2.18" Diameter x 10" Long Stainless Steel With Chrome Or White Finish, Escutcheon Extension Tube Note: For use with 2 piece escutcheons For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	30.98 -0.32 -1.87 -4.03 -6.65 -7.92	3.80
21 13 13 00-0266			Sprinkler Head Guards (21 13 13 00-0200)		
21 13 13 00-0267	EA		Universal Sprinkler Head Guard, C-1 For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	23.08 -0.83 -1.98 -3.30 -6.96 -10.26	9.91
21 13 13 00-0268	EA		Dry Pendent Sprinkler Head Guard, C-2 For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	25.62 -0.83 -2.11 -3.62 -7.42 -10.72	9.91
21 13 13 00-0269	EA		Upright Sprinkler Head Guard With Water Shield, C-3 For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	29.96 -0.83 -2.32 -4.16 -8.20 -11.50	9.91
21 13 13 00-0270	EA		Pendent Sprinkler Head Guard With Water Shield, C-5 For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	35.31 -0.83 -2.59 -4.83 -9.16 -12.46	9.91
21 13 13 00-0271	EA		Universal Sprinkler Head Guard, D-1 For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	25.52 -0.83 -2.10 -3.60 -7.40 -10.70	9.91
21 13 13 00-0272	EA		Upright Sprinkler Head Guard With Water Shield, D-3 For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	27.17 -0.83 -2.18 -3.81 -7.70 -11.00	9.91
21 13 13 00-0273	EA		Pendent Sprinkler Head Guard With Large Water Shield, D-4 For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	39.44 -0.83 -2.80 -5.34 -9.91 -13.21	9.91
21 13 13 00-0274	EA		Pendent Sprinkler Head Guard With Small Water Shield, D-5 For >25 To 50, Deduct For >50 To 100, Deduct For >100 To 500, Deduct For >500 To 1,000, Deduct For >1,000, Deduct	36.98 -0.83 -2.67 -5.04 -9.46 -12.77	9.91
21 13 13 00-0275			Replacement Sprinkler Escutcheon (21 13 13 00-0200)		

21 Fire Suppression**21 10 Water-Based Fire-Suppression Systems****21 13 Fire-Suppression Sprinkler Systems**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0276	EA		Push On, Brass Replacement Sprinkler Escutcheon.....	11.18	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.54	
			For>500 To 1,000, Deduct	-2.95	
			For>1,000, Deduct	-4.05	
21 13 13 00-0277	EA		Push On, Chrome Replacement Sprinkler Escutcheon	11.10	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.53	
			For>500 To 1,000, Deduct	-2.93	
			For>1,000, Deduct	-4.03	
21 13 13 00-0278	EA		Push On, White Replacement Sprinkler Escutcheon.....	11.10	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.53	
			For>500 To 1,000, Deduct	-2.93	
			For>1,000, Deduct	-4.03	
21 13 13 00-0279	EA		Flush, Brass Replacement Sprinkler Escutcheon	11.10	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.53	
			For>500 To 1,000, Deduct	-2.93	
			For>1,000, Deduct	-4.03	
21 13 13 00-0280	EA		Flush, Chrome Replacement Sprinkler Escutcheon	11.10	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.53	
			For>500 To 1,000, Deduct	-2.93	
			For>1,000, Deduct	-4.03	
21 13 13 00-0281	EA		Flush, White Replacement Sprinkler Escutcheon	13.60	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.96	
			For>100 To 500, Deduct	-1.84	
			For>500 To 1,000, Deduct	-3.38	
			For>1,000, Deduct	-4.48	
21 13 13 00-0282	EA		Deep, Brass Replacement Sprinkler Escutcheon	11.10	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.53	
			For>500 To 1,000, Deduct	-2.93	
			For>1,000, Deduct	-4.03	
21 13 13 00-0283	EA		Deep, Chrome Replacement Sprinkler Escutcheon.....	11.10	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.53	
			For>500 To 1,000, Deduct	-2.93	
			For>1,000, Deduct	-4.03	
21 13 13 00-0284	EA		Deep, White Replacement Sprinkler Escutcheon	11.10	3.63
			For>25 To 50, Deduct	-0.28	
			For>50 To 100, Deduct	-0.83	
			For>100 To 500, Deduct	-1.53	
			For>500 To 1,000, Deduct	-2.93	
			For>1,000, Deduct	-4.03	
21 13 13 00-0285			Pendent Shield And O-Ring Assembly (21 13 13 00-0200)		
21 13 13 00-0286	EA		Pendent Shield And O-Ring Assembly	17.74	7.27
			For>25 To 50, Deduct	-0.55	
			For>50 To 100, Deduct	-1.44	
			For>100 To 500, Deduct	-2.49	
			For>500 To 1,000, Deduct	-5.06	
			For>1,000, Deduct	-7.26	
21 13 13 00-0287			Replacement Insulating Sealing Assembly (21 13 13 00-0200)		
21 13 13 00-0288	EA		Insulating Sealing Assembly	73.51	16.51
			For>100 To 500, Deduct	-10.01	
			For>500 To 1,000, Deduct	-18.85	
21 13 13 00-0289			Flexible Sprinkler Piping (21 13 13 00-0011)		
			Note: 1" Diameter stainless steel flexible pipe with either 1/2" or 3/4" outlet.		
21 13 13 00-0290	EA		2' Long, 3/4" Stainless Steel Flexible Sprinkler Piping.....	75.98	17.06
			Note: Includes ceiling mounting bracket.		
			For>25 To 50, Deduct	-1.72	
			For>50 To 100, Deduct	-5.52	
			For>100 To 500, Deduct	-10.36	
			For>500 To 1,000, Deduct	-19.52	
			For>1,000, Deduct	-26.40	



Fire Suppression		21	
Water-Based Fire-Suppression Systems		21 10	
Fire-Suppression Sprinkler Systems		21 13	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 13 00-0291	EA	3' Long, 3/4" Stainless Steel Flexible Sprinkler Piping.....	84.14	17.61	
		Note: Includes ceiling mounting bracket.			
		For >25 To 50, Deduct	-1.81		
		For >50 To 100, Deduct	-6.02		
		For >100 To 500, Deduct	-11.42		
		For >500 To 1,000, Deduct	-21.30		
		For >1,000, Deduct	-28.54		
21 13 13 00-0292	EA	4' Long, 3/4" Stainless Steel Flexible Sprinkler Piping.....	92.46	18.71	
		Note: Includes ceiling mounting bracket.			
		For >25 To 50, Deduct	-1.91		
		For >50 To 100, Deduct	-6.53		
		For >100 To 500, Deduct	-12.51		
		For >500 To 1,000, Deduct	-23.14		
		For >1,000, Deduct	-30.78		
21 13 13 00-0293	EA	5' Long, 3/4" Stainless Steel Flexible Sprinkler Piping.....	101.05	19.81	
		Note: Includes ceiling mounting bracket.			
		For >25 To 50, Deduct	-2.02		
		For >50 To 100, Deduct	-7.08		
		For >100 To 500, Deduct	-13.64		
		For >500 To 1,000, Deduct	-25.07		
		For >1,000, Deduct	-33.16		
21 13 13 00-0294	EA	6' Long, 3/4" Stainless Steel Flexible Sprinkler Piping.....	109.90	22.02	
		Note: Includes ceiling mounting bracket.			
		For >25 To 50, Deduct	-2.15		
		For >50 To 100, Deduct	-7.65		
		For >100 To 500, Deduct	-14.81		
		For >500 To 1,000, Deduct	-27.09		
		For >1,000, Deduct	-35.69		
21 13 13 00-0295		Sprinkler Emergency Cabinets (21 13 13 00-0811)			
21 13 13 00-0296	EA	3 Capacity Emergency Sprinkler Cabinet, A4.....	134.22		
21 13 13 00-0297	EA	6 Capacity Emergency Sprinkler Cabinet, A4.....	139.72		
21 13 13 00-0298	EA	12 Capacity Emergency Sprinkler Cabinet, A4.....	152.27		
21 13 13 00-0299	EA	12 Capacity Emergency Sprinkler Cabinet, A3.....	510.84		
21 13 13 00-0300	EA	Sprinkler Wrench, RC1.....	261.88		
21 13 13 00-0301	EA	Sprinkler Wrench, FC.....	260.87		
21 13 13 00-0302	EA	Sprinkler Wrench, W2.....	86.62		
21 13 16		Dry-Pipe Sprinkler Systems (21 13)			
21 13 16 00-0001		Complete Dry Pipe Sprinkler Systems Assembly (21 13 16)			
		Note: Includes all branch line piping (standard weight threaded black steel, less than 2-1/2" diameter pipe, fittings, branch valves, hangers, sprinkler heads, etc. From riser pipe and mains. Excludes outside mains, inside vertical or horizontal pipe mains, greater than 2" diameter. The coverage of one sprinkler head varies from about 180 SF for light hazard occupancy, about 155 SF for ordinary, 90 to about 130 SF for extra hazard conditions. Excludes special alarm valves, gate valves, check valves, flow control devices, water motor gong assembly, Siamese connections, standpipes and fittings, pipe mains and fittings, fire pumps and tanks. Not for use where detail is available. For sprinkler repairs or sprinkler head replacements use specific pipe, fittings, hangers, valves, and sprinkler head components. See CSI section 23 21 13 23-1456 for individual grooved pipe, 23 21 13 23-1529 for individual grooved pipe fittings.			
21 13 16 00-0002		Light Hazard, Dry-Pipe Sprinkler System Assemblies (21 13 16 00-0001)			
21 13 16 00-0003	EA	Exposed Piping, Light Hazard, Per Head, Dry-Pipe Sprinkler System Assembly.....	1,059.46		
		Note: Includes branch pipe and fittings, supports and sprinkler heads.			
		For Up To 5, Add	462.42		
		For >5 To 10, Add	202.53		
		For >10 To 20, Add	163.90		
		For >20 To 40, Add	72.29		
		For >100 To 150, Deduct	-105.95		
		For >150, Deduct	-211.89		
		For Copper Pipe, Add	139.60		
		For Polyvinyl Chloride (PVC) Pipe, Deduct	-192.58		
21 13 16 00-0004	EA	Concealed Piping, Light Hazard, Per Head, Dry-Pipe Sprinkler System Assembly.....	1,247.60		
		Note: Includes branch pipe and fittings, supports and sprinkler heads with flat or conical escutcheon.			
		For Up To 5, Add	551.45		
		For >5 To 10, Add	255.78		
		For >10 To 20, Add	203.37		
		For >20 To 40, Add	88.58		
		For >100 To 150, Deduct	-124.76		
		For >150, Deduct	-249.52		
		For Copper Pipe, Add	160.94		
		For Polyvinyl Chloride (PVC) Pipe, Deduct	-223.32		
		For Work In Restricted Working Space, Add	157.22		
21 13 16 00-0005		Ordinary Hazard, Dry-Pipe Sprinkler System Assemblies (21 13 16 00-0001)			

21 Fire Suppression**21 10 Water-Based Fire-Suppression Systems****21 13 Fire-Suppression Sprinkler Systems**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 16 00-0006	EA		Exposed Piping, Ordinary Hazard, Per Head, Dry-Pipe Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads.	1,022.61	
			For Up To 5, Add	447.20	
			For >5 To 10, Add	197.64	
			For >10 To 20, Add	159.49	
			For >20 To 40, Add	70.21	
			For >100 To 150, Deduct	-102.26	
			For >150, Deduct	-204.52	
			For Copper Pipe, Add	134.32	
			For Polyvinyl Chloride (PVC) Pipe, Deduct	-185.45	
21 13 16 00-0007	EA		Concealed Piping, Ordinary Hazard, Per Head, Dry-Pipe Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads with flat or conical escutcheon.	1,206.89	
			For Up To 5, Add	534.53	
			For >5 To 10, Add	250.13	
			For >10 To 20, Add	198.35	
			For >20 To 40, Add	86.23	
			For >100 To 150, Deduct	-120.69	
			For >150, Deduct	-241.38	
			For Copper Pipe, Add	155.15	
			For Polyvinyl Chloride (PVC) Pipe, Deduct	-215.49	
			For Work In Restricted Working Space, Add	155.33	
21 13 16 00-0008			Extra Hazard, Dry-Pipe Sprinkler System Assemblies (21 13 16 00-0001)		
21 13 16 00-0009	EA		Exposed Piping, Extra Hazard, Per Head, Dry-Pipe Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads.	962.97	
			For Up To 5, Add	420.74	
			For >5 To 10, Add	185.18	
			For >10 To 20, Add	149.63	
			For >20 To 40, Add	65.93	
			For >100 To 150, Deduct	-96.30	
			For >150, Deduct	-192.59	
			For Copper Pipe, Add	126.67	
			For Polyvinyl Chloride (PVC) Pipe, Deduct	-174.82	
21 13 16 00-0010	EA		Concealed Piping, Extra Hazard, Per Head, Dry-Pipe Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads with flat or conical escutcheon.	1,123.11	
			For Up To 5, Add	497.47	
			For >5 To 10, Add	232.87	
			For >10 To 20, Add	184.65	
			For >20 To 40, Add	80.27	
			For >100 To 150, Deduct	-112.31	
			For >150, Deduct	-224.62	
			For Copper Pipe, Add	144.35	
			For Polyvinyl Chloride (PVC) Pipe, Deduct	-200.51	
			For Work In Restricted Working Space, Add	144.67	
21 13 16 00-0011			Dry-Pipe Sprinkler System Compressors (21 13 16 00-0001)		
21 13 16 00-0012	EA		Dry System Air Compressor, 3/4 HP With Alarm Valve Flange With Gauge	2,562.71	312.61
21 13 16 00-0013	EA		Dry System Air Compressor, 1 HP With Alarm Valve Flange With Gauge	2,678.39	312.61
21 13 16 00-0014	EA		Dry System Air Compressor, 1-1/2 HP With Alarm Valve Flange With Gauge	2,775.99	312.61
21 13 16 00-0015	EA		Dry System Air Compressor, 2 HP With Alarm Valve Flange With Gauge	3,155.54	312.61
21 13 16 00-0016			Dry Pipe Sprinkler System Components (21 13 16)		
21 13 16 00-0017			Dry Pipe Valves (21 13 16 00-0016)		
			Note: Excludes trim package See CSI section 21 13 16 00-0022 for Dry Pipe Valve Trim.		
21 13 16 00-0018	EA		2-1/2" Dry Pipe Valve.....	4,181.40	140.04
21 13 16 00-0019	EA		3" Dry Pipe Valve.....	4,654.16	160.40
21 13 16 00-0020	EA		4" Dry Pipe Valve.....	5,163.88	272.44
21 13 16 00-0021	EA		6" Dry Pipe Valve.....	6,549.04	343.73
21 13 16 00-0022			Dry Pipe Valve Trim (21 13 16 00-0016)		
			Note: Includes gauges, pressure switch, air supply and drain lines.		
21 13 16 00-0023	EA		2-1/2" Dry Pipe Valve Trim.....	1,877.48	296.37
21 13 16 00-0024	EA		3" Dry Pipe Valve Trim.....	1,877.48	296.37
21 13 16 00-0025	EA		4" Dry Pipe Valve Trim.....	2,161.82	406.36
21 13 16 00-0026	EA		6" Dry Pipe Valve Trim.....	2,426.62	565.24
21 13 16 00-0027			Recessed Pendent Dry Pipe Sprinkler Heads, Quick Response (21 13 16 00-0016)		
21 13 16 00-0028	EA		3-1/2" To 5-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head	239.87	21.80
			For >25 To 50, Deduct	-3.30	
			For >50 To 100, Deduct	-15.30	
			For >100 To 500, Deduct	-31.63	
			For >500 To 1,000, Deduct	-54.40	
			For >1,000, Deduct	-67.61	



Fire Suppression			21
Water-Based Fire-Suppression Systems			21 10
Fire-Suppression Sprinkler Systems			21 13

MINOR			TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST
21 13 16 00-0029	EA	6" To 8-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head	249.88	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-15.60	
		For >100 To 500, Deduct	-32.89	
		For >500 To 1,000, Deduct	-56.21	
		For >1,000, Deduct	-69.41	
21 13 16 00-0030	EA	9" To 11-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head	259.90	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-16.30	
		For >100 To 500, Deduct	-34.14	
		For >500 To 1,000, Deduct	-58.01	
		For >1,000, Deduct	-71.22	
21 13 16 00-0031	EA	12" To 14-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	269.94	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-16.60	
		For >100 To 500, Deduct	-35.39	
		For >500 To 1,000, Deduct	-59.82	
		For >1,000, Deduct	-73.02	
21 13 16 00-0032	EA	15" To 17-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	279.96	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-17.30	
		For >100 To 500, Deduct	-36.65	
		For >500 To 1,000, Deduct	-61.62	
		For >1,000, Deduct	-74.83	
21 13 16 00-0033	EA	18" To 20-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	289.98	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-17.60	
		For >100 To 500, Deduct	-37.90	
		For >500 To 1,000, Deduct	-63.42	
		For >1,000, Deduct	-76.63	
21 13 16 00-0034	EA	21" To 23-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	299.99	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-18.30	
		For >100 To 500, Deduct	-39.15	
		For >500 To 1,000, Deduct	-65.23	
		For >1,000, Deduct	-78.43	
21 13 16 00-0035	EA	24" To 26-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	310.03	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-18.60	
		For >100 To 500, Deduct	-40.40	
		For >500 To 1,000, Deduct	-67.03	
		For >1,000, Deduct	-80.24	
21 13 16 00-0036	EA	27" To 29-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	320.04	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-19.30	
		For >100 To 500, Deduct	-41.66	
		For >500 To 1,000, Deduct	-68.83	
		For >1,000, Deduct	-82.04	
21 13 16 00-0037	EA	30" To 32-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	330.06	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-19.61	
		For >100 To 500, Deduct	-42.91	
		For >500 To 1,000, Deduct	-70.64	
		For >1,000, Deduct	-83.85	
21 13 16 00-0038	EA	33" To 35-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	340.10	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-20.31	
		For >100 To 500, Deduct	-44.16	
		For >500 To 1,000, Deduct	-72.44	
		For >1,000, Deduct	-85.65	
21 13 16 00-0039	EA	36" To 38-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	350.12	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-20.61	
		For >100 To 500, Deduct	-45.42	
		For >500 To 1,000, Deduct	-74.25	
		For >1,000, Deduct	-87.46	
21 13 16 00-0040	EA	39" To 41-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	360.16	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-21.31	
		For >100 To 500, Deduct	-46.67	
		For >500 To 1,000, Deduct	-76.06	
		For >1,000, Deduct	-89.26	
21 13 16 00-0041	EA	42" To 44-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	370.16	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-21.61	
		For >100 To 500, Deduct	-47.92	
		For >500 To 1,000, Deduct	-77.86	
		For >1,000, Deduct	-91.06	
21 13 16 00-0042	EA	45" To 48" Length, 1/2" Orifice, 1" NPT Thread Chrome Recessed Pendent Dry Pipe Sprinkler Head.....	380.19	21.80
		For >25 To 50, Deduct	-3.30	
		For >50 To 100, Deduct	-22.31	
		For >100 To 500, Deduct	-49.17	
		For >500 To 1,000, Deduct	-79.66	
		For >1,000, Deduct	-92.87	

21 Fire Suppression**21 10 Water-Based Fire-Suppression Systems****21 13 Fire-Suppression Sprinkler Systems**

MINOR			TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST
21 13 16 00-0043 Sidewall Dry Pipe Sprinkler Heads, Quick Response (21 13 16 00-0016)				
21 13 16 00-0044	EA	3-1/2" To 5-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	237.45	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-15.17	
		For>100 To 500, Deduct	-31.33	
		For>500 To 1,000, Deduct	-53.97	
		For>1,000, Deduct	-67.18	
21 13 16 00-0045	EA	6" To 8-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	247.49	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-15.68	
		For>100 To 500, Deduct	-32.59	
		For>500 To 1,000, Deduct	-55.78	
		For>1,000, Deduct	-68.98	
21 13 16 00-0046	EA	9" To 11-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	257.53	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-16.18	
		For>100 To 500, Deduct	-33.84	
		For>500 To 1,000, Deduct	-57.58	
		For>1,000, Deduct	-70.79	
21 13 16 00-0047	EA	12" To 14-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	267.52	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-16.68	
		For>100 To 500, Deduct	-35.09	
		For>500 To 1,000, Deduct	-59.38	
		For>1,000, Deduct	-72.59	
21 13 16 00-0048	EA	15" To 17-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	277.55	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-17.18	
		For>100 To 500, Deduct	-36.34	
		For>500 To 1,000, Deduct	-61.19	
		For>1,000, Deduct	-74.39	
21 13 16 00-0049	EA	18" To 20-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	287.56	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-17.68	
		For>100 To 500, Deduct	-37.60	
		For>500 To 1,000, Deduct	-62.99	
		For>1,000, Deduct	-76.20	
21 13 16 00-0050	EA	21" To 23-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	297.61	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-18.18	
		For>100 To 500, Deduct	-38.85	
		For>500 To 1,000, Deduct	-64.80	
		For>1,000, Deduct	-78.00	
21 13 16 00-0051	EA	24" To 26-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	307.63	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-18.68	
		For>100 To 500, Deduct	-40.10	
		For>500 To 1,000, Deduct	-66.60	
		For>1,000, Deduct	-79.81	
21 13 16 00-0052	EA	27" To 29-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	317.63	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-19.18	
		For>100 To 500, Deduct	-41.35	
		For>500 To 1,000, Deduct	-68.40	
		For>1,000, Deduct	-81.61	
21 13 16 00-0053	EA	30" To 32-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	327.65	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-19.68	
		For>100 To 500, Deduct	-42.61	
		For>500 To 1,000, Deduct	-70.20	
		For>1,000, Deduct	-83.41	
21 13 16 00-0054	EA	33" To 35-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	337.69	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-20.19	
		For>100 To 500, Deduct	-43.86	
		For>500 To 1,000, Deduct	-72.01	
		For>1,000, Deduct	-85.22	
21 13 16 00-0055	EA	36" To 38-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	347.70	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-20.69	
		For>100 To 500, Deduct	-45.11	
		For>500 To 1,000, Deduct	-73.81	
		For>1,000, Deduct	-87.02	
21 13 16 00-0056	EA	39" To 41-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	377.79	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-22.19	
		For>100 To 500, Deduct	-48.87	
		For>500 To 1,000, Deduct	-79.23	
		For>1,000, Deduct	-92.44	
21 13 16 00-0057	EA	42" To 44-3/4" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head	387.81	21.80
		For>25 To 50, Deduct	-3.30	
		For>50 To 100, Deduct	-22.69	
		For>100 To 500, Deduct	-50.13	
		For>500 To 1,000, Deduct	-81.03	
		For>1,000, Deduct	-94.24	



Fire Suppression			21
Water-Based Fire-Suppression Systems			21 10
Fire-Suppression Sprinkler Systems			21 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 16 00-0058	EA		45" To 48" Length, 1/2" Orifice, 1" NPT Thread Chrome Sidewall Dry Pipe Sprinkler Head <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100 To 500, Deduct</i> <i>For >500 To 1,000, Deduct</i> <i>For >1,000, Deduct</i>	391.81 -3.30 -22.89 -50.63 -81.75 -94.96	21.80
21 13 16 00-0059			Pendent Dry Pipe Sprinkler Head, Early Suppression, Fast Response (21 13 16 00-0016)		
21 13 16 00-0060	EA		23" Length, 1-1/4" NPT Thread, K=16.8, Early Suppression, Fast Response, Brass Pendent Dry Pipe Sprinkler Head <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100 To 500, Deduct</i> <i>For >500 To 1,000, Deduct</i> <i>For >1,000, Deduct</i>	1,092.41 -3.58 -58.20 -138.34 -208.80 -223.11	21.80
21 13 16 00-0061	EA		30" Length, 1-1/4" NPT Thread, K=16.8, Early Suppression, Fast Response, Brass Pendent Dry Pipe Sprinkler Head <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100 To 500, Deduct</i> <i>For >500 To 1,000, Deduct</i> <i>For >1,000, Deduct</i>	1,092.41 -3.58 -58.20 -138.34 -208.80 -223.11	21.80
21 13 16 00-0062	EA		36" Length, 1-1/4" NPT Thread, K=16.8, Early Suppression, Fast Response, Brass Pendent Dry Pipe Sprinkler Head <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100 To 500, Deduct</i> <i>For >500 To 1,000, Deduct</i> <i>For >1,000, Deduct</i>	1,092.41 -3.58 -58.20 -138.34 -208.80 -223.11	21.80
21 13 16 00-0063	EA		36" Length, 1-1/4" ISO Thread, K=16.8, Early Suppression, Fast Response, Brass Pendent Dry Pipe Sprinkler Head <i>For >25 To 50, Deduct</i> <i>For >50 To 100, Deduct</i> <i>For >100 To 500, Deduct</i> <i>For >500 To 1,000, Deduct</i> <i>For >1,000, Deduct</i>	1,092.41 -3.58 -58.20 -138.34 -208.80 -223.11	21.80
21 13 19			Preaction Sprinkler Systems (21 13)		
21 13 19 00-0001			Complete Preaction Sprinkler Systems Assemblies (21 13 19) Note: Includes all branch line piping (standard weight threaded black steel, less than 2-1/2" diameter pipe, fittings, branch valves, hangers, sprinkler heads, etc. From riser pipe and mains. Excludes outside mains, inside vertical or horizontal pipe mains, greater than 2" diameter. The coverage of one sprinkler head varies from about 180 SF for light hazard occupancy, about 155 SF for ordinary, 90 to about 130 SF for extra hazard conditions. Excludes special alarm valves, gate valves, check valves, flow control devices, water motor gong assembly, Siamese connections, standpipes and fittings, pipe mains and fittings, fire pumps and tanks. Not for use where detail is available. For sprinkler repairs or sprinkler head replacements use specific pipe, fittings, hangers, valves, and sprinkler head components. See CSI section 23 21 13 23-1456 for individual grooved pipe, 23 21 13 23-1529 for individual grooved pipe fittings.		
21 13 19 00-0002			Ordinary Hazard, Preaction Sprinkler System Assemblies (21 13 19 00-0001)		
21 13 19 00-0003	EA		Exposed Piping, Ordinary Hazard, Per Head, Preaction Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads. <i>For Up To 5, Add</i> <i>For >5 To 10, Add</i> <i>For >10 To 20, Add</i> <i>For >20 To 40, Add</i> <i>For >100 To 150, Deduct</i> <i>For >150, Deduct</i>	933.23 411.45 243.88 150.55 65.74 -93.32 -186.65	
21 13 19 00-0004			Extra Hazard, Preaction Sprinkler System Assemblies (21 13 19 00-0001)		
21 13 19 00-0005	EA		Exposed Piping, Extra Hazard, Per Head, Preaction Sprinkler System Assembly Note: Includes branch pipe and fittings, supports and sprinkler heads. <i>For Up To 5, Add</i> <i>For >5 To 10, Add</i> <i>For >10 To 20, Add</i> <i>For >20 To 40, Add</i> <i>For >100 To 150, Deduct</i> <i>For >150, Deduct</i>	868.46 382.94 227.02 140.18 61.20 -86.85 -173.69	
21 13 26			Deluge Fire-Suppression Sprinkler Systems (21 13)		
21 13 26 00-0001			Deluge Fire-Suppression Sprinkler Systems Equipment (21 13 26)		
21 13 26 00-0002			Deluge Valves With Required Trim And Release Equipment (21 13 26 00-0001)		
21 13 26 00-0003	EA		3" Deluge Valve With Trim And Release Equipment	10,097.76	611.55
21 13 26 00-0004	EA		4" Deluge Valve With Trim And Release Equipment	11,593.00	687.93
21 13 26 00-0005	EA		6" Deluge Valve With Trim And Release Equipment	14,214.02	1,000.65
21 13 39			Foam-Water Systems (21 13)		

21 Fire Suppression**21 10 Water-Based Fire-Suppression Systems****21 13 Fire-Suppression Sprinkler Systems**

MINOR			TOTAL DIRECT		DEMOLITION	
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST	
21 13 39 00-0001		Foam Control Valves And Monitors (21 13 39)				
21 13 39 00-0002		Control Valves (21 13 39 00-0001)				
21 13 39 00-0003	EA	3" Foam Control Valve.....	4,443.04		611.55	
21 13 39 00-0004		Supply Valves (21 13 39 00-0001)				
21 13 39 00-0005	EA	2-1/2" Foam Supply Valve.....	3,880.35		687.93	
21 13 39 00-0006		Proportioners (21 13 39 00-0001)				
21 13 39 00-0007	EA	8" Foam Proportioner.....	2,801.92		1,000.65	
21 13 39 00-0008		Monitors (21 13 39 00-0001)				
21 13 39 00-0009	EA	Oscillating Foam Monitor.....	5,071.10		137.59	
21 13 41		Fire-Suppression Sprinkler Piping (21 13)				
See CSI section 23 21 13 23-0001 for threaded black steel piping, 23 21 13 23-0374 for welded black steel piping, 23 21 13 23-0858 for flanged black steel pipe fittings, 23 21 13 23-1456 for grooved pipe, 23 21 13 23-1529 for grooved pipe fittings, 33 14 13 13-0001 for ductile iron pipe and fittings.						
21 13 41 00-0001		Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe (21 13 41)				
Note: SDR 13.5						
21 13 41 00-0002		Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe (21 13 41)				
21 13 41 00-0003	LF	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe.....	5.86		1.76	
For Work In Restricted Working Space, Add			1.32			
21 13 41 00-0004	LF	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe.....	6.98		1.87	
For Work In Restricted Working Space, Add			1.42			
21 13 41 00-0005	LF	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe.....	8.69		2.10	
For Work In Restricted Working Space, Add			1.55			
21 13 41 00-0006	LF	1-1/2" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe.....	10.60		2.31	
For Work In Restricted Working Space, Add			1.72			
21 13 41 00-0007	LF	2" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe.....	13.54		2.53	
For Work In Restricted Working Space, Add			1.92			
21 13 41 00-0008	LF	2-1/2" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe.....	18.41		2.86	
For Work In Restricted Working Space, Add			2.18			
21 13 41 00-0009	LF	3" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Fire Sprinkler Pipe.....	25.56		3.42	
For Work In Restricted Working Space, Add			2.58			
21 13 41 00-0010		Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbows, Fire Sprinkler Piping (21 13 41 00-0001)				
21 13 41 00-0011	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping.....	28.32		10.57	
For Work In Restricted Working Space, Add			7.93			
21 13 41 00-0012	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping.....	37.26		13.21	
For Work In Restricted Working Space, Add			9.94			
21 13 41 00-0013	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping.....	46.61		16.51	
For Work In Restricted Working Space, Add			12.42			
21 13 41 00-0014	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping.....	53.18		18.27	
For Work In Restricted Working Space, Add			13.74			
21 13 41 00-0015	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping.....	60.28		20.48	
For Work In Restricted Working Space, Add			15.32			
21 13 41 00-0016	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping.....	75.81		23.23	
For Work In Restricted Working Space, Add			17.43			
21 13 41 00-0017	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow, Fire Sprinkler Piping.....	92.76		27.52	
For Work In Restricted Working Space, Add			20.60			
21 13 41 00-0018		Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbows, Fire Sprinkler Piping (21 13 41 00-0001)				
21 13 41 00-0019	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping.....	28.99		10.57	
For Work In Restricted Working Space, Add			7.93			
21 13 41 00-0020	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping.....	36.19		13.21	
For Work In Restricted Working Space, Add			9.94			
21 13 41 00-0021	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping.....	45.80		16.51	
For Work In Restricted Working Space, Add			12.42			
21 13 41 00-0022	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping.....	51.89		18.27	
For Work In Restricted Working Space, Add			13.74			
21 13 41 00-0023	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping.....	58.66		20.48	
For Work In Restricted Working Space, Add			15.32			
21 13 41 00-0024	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping.....	71.74		23.23	
For Work In Restricted Working Space, Add			17.43			
21 13 41 00-0025	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow, Fire Sprinkler Piping.....	88.28		27.52	
For Work In Restricted Working Space, Add			20.60			
21 13 41 00-0026		Chlorinated Polyvinyl Chloride (CPVC) Tees, Fire Sprinkler Piping (21 13 41 00-0001)				



Fire Suppression			21
Water-Based Fire-Suppression Systems			21 10
Fire-Suppression Sprinkler Systems			21 13

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 41 00-0027	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	42.19	15.85
		<i>For Work In Restricted Working Space, Add</i>	11.69	
21 13 41 00-0028	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	54.83	19.92
		<i>For Work In Restricted Working Space, Add</i>	14.93	
21 13 41 00-0029	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	69.73	24.88
		<i>For Work In Restricted Working Space, Add</i>	18.62	
21 13 41 00-0030	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	79.94	27.52
		<i>For Work In Restricted Working Space, Add</i>	20.60	
21 13 41 00-0031	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	93.29	30.60
		<i>For Work In Restricted Working Space, Add</i>	22.98	
21 13 41 00-0032	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	114.29	34.90
		<i>For Work In Restricted Working Space, Add</i>	26.15	
21 13 41 00-0033	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee, Fire Sprinkler Piping	135.03	41.16
		<i>For Work In Restricted Working Space, Add</i>	30.91	
21 13 41 00-0034 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tees, Fire Sprinkler Piping (21 13 41 00-0001)				
21 13 41 00-0035	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping	50.67	18.60
		<i>For Work In Restricted Working Space, Add</i>	13.90	
21 13 41 00-0036	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping	65.84	23.23
		<i>For Work In Restricted Working Space, Add</i>	17.37	
21 13 41 00-0037	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping	73.68	25.65
		<i>For Work In Restricted Working Space, Add</i>	19.22	
21 13 41 00-0038	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping	86.88	28.62
		<i>For Work In Restricted Working Space, Add</i>	21.47	
21 13 41 00-0039	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping	102.42	32.58
		<i>For Work In Restricted Working Space, Add</i>	24.40	
21 13 41 00-0040	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee, Fire Sprinkler Piping	120.54	38.41
		<i>For Work In Restricted Working Space, Add</i>	28.86	
21 13 41 00-0041 Chlorinated Polyvinyl Chloride (CPVC) Crosses, Fire Sprinkler Piping (21 13 41 00-0001)				
21 13 41 00-0042	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping	56.90	21.13
		<i>For Work In Restricted Working Space, Add</i>	15.85	
21 13 41 00-0043	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping	71.34	26.52
		<i>For Work In Restricted Working Space, Add</i>	19.88	
21 13 41 00-0044	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping	89.82	33.13
		<i>For Work In Restricted Working Space, Add</i>	24.83	
21 13 41 00-0045	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping	101.20	36.65
		<i>For Work In Restricted Working Space, Add</i>	27.47	
21 13 41 00-0046	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping	118.01	40.83
		<i>For Work In Restricted Working Space, Add</i>	30.65	
21 13 41 00-0047	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross, Fire Sprinkler Piping	150.81	46.45
		<i>For Work In Restricted Working Space, Add</i>	34.87	
21 13 41 00-0048 Chlorinated Polyvinyl Chloride (CPVC) Couplings, Fire Sprinkler Piping (21 13 41 00-0001)				
21 13 41 00-0049	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping	19.43	7.04
		<i>For Work In Restricted Working Space, Add</i>	5.28	
21 13 41 00-0050	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping	26.03	9.46
		<i>For Work In Restricted Working Space, Add</i>	7.10	
21 13 41 00-0051	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping	34.50	12.43
		<i>For Work In Restricted Working Space, Add</i>	9.31	
21 13 41 00-0052	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping	39.28	13.75
		<i>For Work In Restricted Working Space, Add</i>	10.30	
21 13 41 00-0053	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping	45.00	15.30
		<i>For Work In Restricted Working Space, Add</i>	11.49	
21 13 41 00-0054	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping	53.84	17.39
		<i>For Work In Restricted Working Space, Add</i>	13.08	
21 13 41 00-0055	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Coupling, Fire Sprinkler Piping	64.88	20.59
		<i>For Work In Restricted Working Space, Add</i>	15.45	
21 13 41 00-0056 Chlorinated Polyvinyl Chloride (CPVC) Caps, Fire Sprinkler Piping (21 13 41 00-0001)				
21 13 41 00-0057	EA	3/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping	9.90	3.53
		<i>For Work In Restricted Working Space, Add</i>	2.64	
21 13 41 00-0058	EA	1" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping	15.76	5.72
		<i>For Work In Restricted Working Space, Add</i>	4.26	
21 13 41 00-0059	EA	1-1/4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping	18.03	6.17
		<i>For Work In Restricted Working Space, Add</i>	4.66	
21 13 41 00-0060	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping	20.63	6.82
		<i>For Work In Restricted Working Space, Add</i>	5.15	
21 13 41 00-0061	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping	24.38	7.71
		<i>For Work In Restricted Working Space, Add</i>	5.75	
21 13 41 00-0062	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping	29.33	8.70
		<i>For Work In Restricted Working Space, Add</i>	6.54	
21 13 41 00-0063	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap, Fire Sprinkler Piping	37.97	10.35
		<i>For Work In Restricted Working Space, Add</i>	7.73	

21 Fire Suppression**21 10 Water-Based Fire-Suppression Systems****21 13 Fire-Suppression Sprinkler Systems**

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 13 41 00-0064			Chlorinated Polyvinyl Chloride (CPVC) Reducer Bushing, Fire Sprinkler Piping <i>(21 13 41 00-0001)</i>		
21 13 41 00-0065	EA	1"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping..... <i>For Work In Restricted Working Space, Add</i>	27.51 7.83	10.46
21 13 41 00-0066	EA	1-1/4"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	36.43 10.24	13.64
21 13 41 00-0067	EA	1-1/2"	Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	40.27 11.33	15.07
21 13 41 00-0068	EA	2"	Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	45.83 12.65	16.84
21 13 41 00-0069	EA	2-1/2"	Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	54.29 14.40	19.16
21 13 41 00-0070	EA	3"	Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Bushing, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	66.18 17.00	22.67
21 13 41 00-0071			Chlorinated Polyvinyl Chloride (CPVC) Spigot Style Reducing Adapter, Male Slip x Female Pipe Thread, Fire Sprinkler Piping <i>(21 13 41 00-0001)</i>		
21 13 41 00-0072	EA	3/4"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Spigot Style Reducing Adapter, Male Slip X Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	24.11 5.81	7.71
21 13 41 00-0073	EA	1"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Spigot Style Reducing Adapter, Male Slip X Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	31.11 7.83	10.46
21 13 41 00-0074			Chlorinated Polyvinyl Chloride (CPVC) Reducing Adapter, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>(21 13 41 00-0001)</i>		
21 13 41 00-0075	EA	3/4"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Adapter, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	24.11 5.81	7.71
21 13 41 00-0076	EA	1"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing Adapter, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	31.11 7.83	10.46
21 13 41 00-0077			Chlorinated Polyvinyl Chloride (CPVC) Reducing 90 Degree Elbow Adapter, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>(21 13 41 00-0001)</i>		
21 13 41 00-0078	EA	3/4"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing 90 Degree Elbow Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	28.18 7.13	9.46
21 13 41 00-0079	EA	1"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing 90 Degree Elbow Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	36.01 8.95	11.89
21 13 41 00-0080	EA	1"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Reducing 90 Degree Elbow Adapter With 3/4" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	37.36 8.95	11.89
21 13 41 00-0081			Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>(21 13 41 00-0001)</i>		
21 13 41 00-0082	EA	3/4"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	46.32 11.89	15.85
21 13 41 00-0083	EA	1"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	57.00 14.93	19.92
21 13 41 00-0084	EA	1-1/4"	Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	74.15 18.62	24.88
21 13 41 00-0085	EA	1-1/2"	Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	84.62 20.60	27.52
21 13 41 00-0086	EA	2"	Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Straight Tee Adapter With 1/2" FPT, Female Slip x Female Pipe Thread, Fire Sprinkler Piping <i>For Work In Restricted Working Space, Add</i>	98.98 22.98	30.60
21 20 Fire-Extinguishing Systems <i>(21)</i>					
21 21 Carbon-Dioxide Fire-Extinguishing Systems <i>(21 20)</i>					
21 21 16 Carbon-Dioxide Fire-Extinguishing Equipment <i>(21 21)</i>					
21 21 16 00-0001			Carbon Dioxide Cylinders <i>(21 21 16)</i>		
21 21 16 00-0002	EA		Carbon Dioxide Simplex Cylinder, 75 LB	4,753.33	225.73
21 21 16 00-0003	EA		Carbon Dioxide Duplex Cylinder, 75 LB (Each)	9,506.67	451.46
21 21 16 00-0004	EA		Carbon Dioxide Cylinder, Heat/Ion Detector, With Bracket.....	522.12	130.58
21 21 16 00-0005	EA		Carbon Dioxide Cylinder, Dispersion Nozzle	251.61	41.24
21 21 16 00-0006	LF		Carbon Dioxide Cylinder, 1/2" Rubber Tubing	51.25	16.72



Fire Suppression		21
Fire-Extinguishing Systems		21 20
Carbon-Dioxide Fire-Extinguishing Systems		21 21

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

21 22 Clean-Agent Fire-Extinguishing Systems (21 20)

21 22 16 Clean-Agent Fire-Extinguishing Equipment (21 22)

21 22 16 00-0001	EA	Ansul Fire Control Systems (21 22 16)		
21 22 16 00-0002	EA	Sapphire® Fire Suppression Systems (21 22 16 00-0001) Note: ANSUL® SAPHIRE® fire suppression systems use 3M™ Novec™ 1230 fire protection fluid for total flooding applications.		
21 22 16 00-0003	EA	Cylinders, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0004	EA	20 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570635).....	1,603.88	76.96
		Note: 10 to 21 LB tank capacity. Excludes Sapphire agent.		
21 22 16 00-0005	EA	40 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570636).....	1,829.93	76.96
		Note: 20 to 46 LB tank capacity. Excludes Sapphire agent.		
21 22 16 00-0006	EA	80 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570637).....	1,859.65	76.96
		Note: 41 to 80 LB tank capacity. Excludes Sapphire agent.		
21 22 16 00-0007	EA	140 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570638).....	2,640.46	102.60
		Note: 58 to 138 LB tank capacity. Excludes Sapphire agent.		
21 22 16 00-0008	EA	280 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570639).....	2,789.89	102.60
		Note: 116 to 280 LB tank capacity. Excludes Sapphire agent.		
21 22 16 00-0009	EA	390 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570640).....	2,980.03	128.26
		Note: 161 to 388 LB tank capacity. Excludes Sapphire agent.		
21 22 16 00-0010	EA	450 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570641).....	3,162.24	128.26
		Note: 194 to 459 LB tank capacity. Excludes Sapphire agent.		
21 22 16 00-0011	EA	850 LB, Empty Tank And Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570586).....	4,774.38	153.91
		Note: 375 to 851 LB tank capacity. Excludes Sapphire agent.		
21 22 16 00-0012	LB	Sapphire Agent, Fire Protection Fluid, Factory Filled (Novec 1230).....	40.37	153.91
		Note: Add to empty tank cost.		
21 22 16 00-0013	EA	Nozzles, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0014	EA	1/2" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570515).....	152.92	12.83
21 22 16 00-0015	EA	3/4" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570516).....	156.77	12.83
21 22 16 00-0016	EA	1" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570517).....	166.42	12.83
21 22 16 00-0017	EA	1-1/4" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570518).....	173.17	12.83
21 22 16 00-0018	EA	1-1/2" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570519).....	182.81	12.83
21 22 16 00-0019	EA	2" Drilled Brass Nozzle, 180 Degree, Sapphire® Fire Suppression System (Ansul 570520).....	211.72	12.83
21 22 16 00-0020	EA	1/2" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570602).....	152.92	12.83
21 22 16 00-0021	EA	3/4" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570603).....	156.77	12.83
21 22 16 00-0022	EA	1" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570604).....	166.42	12.83
21 22 16 00-0023	EA	1-1/4" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570605).....	173.17	12.83
21 22 16 00-0024	EA	1-1/2" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570606).....	182.81	12.83
21 22 16 00-0025	EA	2" Drilled Brass Nozzle, 360 Degree, Sapphire® Fire Suppression System (Ansul 570607).....	211.72	12.83
21 22 16 00-0026	EA	Actuation Attachments, Sapphire® Fire Suppression System (21 22 16 00-0002)		
21 22 16 00-0027	EA	7/16-20 To 1/4" NPT, Male Actuation Elbow, Sapphire® Fire Suppression System (Ansul 31810).....	13.65	3.85
21 22 16 00-0028	EA	7/16-20 To 1/4" NPT, Male Actuation Tee, Sapphire® Fire Suppression System (Ansul 31811).....	15.31	3.85
21 22 16 00-0029	EA	1/4" NPT To 7/16-20, Male Actuation Connector, Sapphire® Fire Suppression System (Ansul 32338).....	20.67	8.98
21 22 16 00-0030	EA	16" Actuation Hose, Sapphire® Fire Suppression System (Ansul 73597).....	49.17	11.49
21 22 16 00-0031	EA	32" Actuation Hose, Sapphire® Fire Suppression System (Ansul 415142).....	73.11	11.49
21 22 16 00-0032	EA	42" Actuation Hose, Sapphire® Fire Suppression System (Ansul 430815).....	88.37	11.49
21 22 16 00-0033	EA	24", Stainless Steel, Swivel, Braided Actuation Hose, Sapphire® Fire Suppression System (Ansul 32336).....	43.66	11.49
21 22 16 00-0034	EA	Pneumatic Actuator Shipping Assembly, Sapphire® Fire Suppression System (Ansul 570537).....	302.58	102.60
21 22 16 00-0035	EA	Local Manual Actuator, Sapphire® Fire Suppression System (Ansul 570549).....	292.73	76.96
21 22 16 00-0036	EA	Electric Actuator Shipping Assembly, Sapphire® Fire Suppression System (Ansul 570537).....	661.22	102.60
21 22 16 00-0037	EA	Nameplates, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0038	EA	Warning Plate For Use Outside Room, Sapphire® Fire Suppression Systems (Ansul 570580).....	48.80	12.83
21 22 16 00-0039	EA	Warning Plate For Use Inside Room, Sapphire® Fire Suppression Systems (Ansul 570581).....	53.15	12.83
21 22 16 00-0040	EA	Cylinder Bracketing, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0041	EA	Tank Bracket Assembly For 20 LB, 40 LB, 50 LB, 80 LB And 90 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570085).....	150.23	38.47
21 22 16 00-0042	EA	Tank Bracket Assembly For 140 LB, 280 LB, 390 LB And 450 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570085).....	158.91	38.47
21 22 16 00-0043	EA	Tank Bracket Assembly For 850 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570336).....	170.00	38.47
21 22 16 00-0044	EA	Check Valves, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0045	EA	1" Manifold Check Valve, Sapphire® Fire Suppression Systems (Ansul 570566).....	409.16	40.84
21 22 16 00-0046	EA	2" Manifold Check Valve, Sapphire® Fire Suppression Systems (Ansul 570568).....	574.46	70.08
21 22 16 00-0047	EA	Discharge Hose, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0048	EA	1" Flexible Discharge Hose, Sapphire® Fire Suppression Systems (Ansul 570539).....	127.46	25.66
21 22 16 00-0049	EA	2" Flexible Discharge Hose, Sapphire® Fire Suppression Systems (Ansul 570538).....	482.25	25.66

21	Fire Suppression
21 20	Fire-Extinguishing Systems
21 22	Clean-Agent Fire-Extinguishing Systems



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0050	EA	3" Flexible Discharge Hose, Sapphire® Fire Suppression Systems (Ansul 69990).....	406.08	25.66
21 22 16 00-0051	EA	3" Discharge Hose And Check Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 69841)	1,774.73	102.60
21 22 16 00-0052		Swivel Adaptors, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0053	EA	1" Single-Tank Swivel Adaptor, Sapphire® Fire Suppression Systems (Ansul 570557).....	45.53	17.96
21 22 16 00-0054	EA	2" Single-Tank Swivel Adaptor, Sapphire® Fire Suppression Systems (Ansul 570558).....	81.57	17.96
21 22 16 00-0055	EA	3" Flare To 3" Grooved, Single-Tank Swivel Adaptor, Sapphire® Fire Suppression Systems (Ansul 69471)	228.12	12.83
21 22 16 00-0056	EA	3" Flare To 3" NPT, Single-Tank Swivel Adaptor, Sapphire® Fire Suppression Systems (Ansul 69470).....	294.60	12.83
21 22 16 00-0057		Pressure Switches, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0058	EA	Cylinder Low Pressure Switch, Sapphire® Fire Suppression Systems (Ansul 570585).....	166.71	51.30
21 22 16 00-0059	EA	Pressure Trip, Sapphire® Fire Suppression Systems (Ansul 5156)	169.40	21.54
21 22 16 00-0060	EA	Weather Proof, DPST Pressure Switch, Sapphire® Fire Suppression Systems (Ansul 46250)	519.87	89.78
21 22 16 00-0061		Level Indicators, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0062	EA	Liquid Level Indicator For 280 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570277).....	612.42	17.96
21 22 16 00-0063	EA	Liquid Level Indicator For 390 LB And 850 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570278).....	641.36	17.96
21 22 16 00-0064	EA	Liquid Level Indicator For 450 LB Tanks, Sapphire® Fire Suppression Systems (Ansul 570589).....	686.62	25.66
21 22 16 00-0065		Inspection/Maintenance Devices, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0066	EA	Master Tank Pilot Port Male Adaptor, Sapphire® Fire Suppression Systems (Ansul 570342).....	46.20	15.39
21 22 16 00-0067	EA	Cylinder Valve Pressure Gauge, Sapphire® Fire Suppression Systems (Ansul 570642).....	57.98	17.96
21 22 16 00-0068	EA	Recharge Top Adaptor Assembly, Sapphire® Fire Suppression Systems (Ansul 570579).....	192.66	76.96
21 22 16 00-0069	EA	1" Recharge Fill Adaptor Assembly, Sapphire® Fire Suppression Systems (Ansul 570576).....	225.73	76.96
21 22 16 00-0070	EA	2" Recharge Fill Adaptor Assembly, Sapphire® Fire Suppression Systems (Ansul 570592).....	253.21	76.96
21 22 16 00-0071	EA	3" Recharge Fill Adaptor Assembly, Sapphire® Fire Suppression Systems (Ansul 69891).....	341.90	76.96
21 22 16 00-0072		Replacement Parts, Sapphire® Fire Suppression Systems (21 22 16 00-0002)		
21 22 16 00-0073	EA	O-Ring Kit, Sapphire® Fire Suppression Systems (Ansul 570559)	54.91	20.52
21 22 16 00-0074	EA	Recoil Cap, Sapphire® Fire Suppression Systems (Ansul 570553)	91.69	12.83
21 22 16 00-0075	EA	Burst Disc Assembly, Sapphire® Fire Suppression Systems (Ansul 570053)	123.14	25.66
21 22 16 00-0076	EA	Bonnet Assembly, Sapphire® Fire Suppression Systems (Ansul 570543)	322.83	102.60
21 22 16 00-0077	EA	Piston Assembly, Sapphire® Fire Suppression Systems (Ansul 570551)	491.54	102.60
21 22 16 00-0078	EA	1" Valve Assembly, Sapphire® Fire Suppression Systems (Ansul 570535).....	1,674.45	102.60
21 22 16 00-0079		Inergen® Fire Suppression System (21 22 16 00-0001)		
21 22 16 00-0080		Actuation Attachments, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0081	EA	Flexible Discharge Bend For CV90 And CV98 (200 Bar), Inergen® Fire Suppression System (Ansul 427082).....	179.06	25.41
21 22 16 00-0082	EA	Metron Protractor Replacement Cartridges, Inergen® Fire Suppression System (Ansul 423958)	208.32	27.31
21 22 16 00-0083	EA	Electric Actuator, Lever, CV98, Inergen® Fire Suppression System (Ansul 423309).....	372.70	49.43
21 22 16 00-0084	EA	Electric Actuator For CV90 Valve, Inergen® Fire Suppression System (Ansul 426876).....	748.74	112.58
21 22 16 00-0085		Check Valves, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0086	EA	2" Bronze Check Valve, Weld Neck Flange, Inergen® Fire Suppression System (Ansul 840794).....	1,814.20	148.59
21 22 16 00-0087		Components, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0088	EA	1/2" Manifold Relief Valve, Inergen® Fire Suppression System (Ansul 418378).....	53.18	7.79
21 22 16 00-0089	EA	Pressure Operated Siren, Inergen® Fire Suppression System (Ansul 419700).....	625.90	83.49
21 22 16 00-0090	EA	30 Second Pneumatic Time Delay, Inergen® Fire Suppression System (Ansul 54169).....	1,948.33	261.22
21 22 16 00-0091	EA	60 Second Time Delay, Inergen® Fire Suppression System (Ansul 426170).....	1,855.93	266.12
21 22 16 00-0092		Cylinders, Inergen® Fire Suppression System (21 22 16 00-0079)		
Note: Includes CV98 valve. Factory filled with Inergen agent.				
21 22 16 00-0093	EA	200 CF Cylinder, Standard Paint, Inergen® Fire Suppression System (Ansul 426147)	1,623.46	239.07
21 22 16 00-0094	EA	250 CF Cylinder, Standard Paint, Inergen® Fire Suppression System (Ansul 426148)	1,841.62	270.86
21 22 16 00-0095	EA	350 CF Cylinder, Standard Paint, Inergen® Fire Suppression System (Ansul 426620)	2,637.41	351.00
21 22 16 00-0096	EA	435 CF Cylinder, Standard Paint, Inergen® Fire Suppression System (Ansul 426150).....	2,637.36	428.92
21 22 16 00-0097	EA	250 CF Cylinder, Corrosion Resistant Paint, Inergen® Fire Suppression System (Ansul 426257)	1,903.67	302.01
21 22 16 00-0098	EA	350 CF Cylinder, Corrosion Resistant Paint, Inergen® Fire Suppression System (Ansul 426621)	2,699.92	382.27
21 22 16 00-0099	EA	435 CF Cylinder, Corrosion Resistant Paint, Inergen® Fire Suppression System (Ansul 426259)	2,782.90	460.91
21 22 16 00-0100		Inspection/Maintenance Devices, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0101	EA	CV90 Fill Adaptor To CV98 Valve, Conversion Adapter, Inergen® Fire Suppression System (Ansul 423657)	61.30	8.69
21 22 16 00-0102	EA	CV98 To CV90 Conversion Adapter, Cylinder Test Gauge, Inergen® Fire Suppression System (Ansul 426181)	61.30	8.69
21 22 16 00-0103	EA	CV90 Pressure Test Assembly Venting Kit, Inergen® Fire Suppression System (Ansul 426954).....	73.97	9.66
21 22 16 00-0104	EA	Pressure Test Gauge, Inergen® Fire Suppression System (Ansul 423923).....	1,167.89	165.90



Fire Suppression		21
Fire-Extinguishing Systems		21 20
Clean-Agent Fire-Extinguishing Systems		21 22

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0105 Multiple Cylinder Bracketing, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0106 EA 13" Carriage Bolt With Nut, Multiple Cylinder Bracketing, Inergen® Fire Suppression System (Ansul 418502).....	19.68	2.54
Note: For single row 435 cubic foot cylinders.		
21 22 16 00-0107 EA 27" Carriage Bolt With Nut, Multiple Cylinder Bracketing, Inergen® Fire Suppression System (Ansul 418503).....	27.94	3.63
Note: For double row 435 cubic foot cylinders.		
21 22 16 00-0108 Nameplates, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0109 EA Warning Plate, Nameplate, Inside Room With Alarm, Inergen® Fire Suppression System (Ansul 416265).....	21.71	2.84
21 22 16 00-0110 EA Warning Plate, Nameplate, Outside Room Without Alarm, Inergen® Fire Suppression System (Ansul 416266).....	20.05	2.84
21 22 16 00-0111 Nozzle Deflector Shields, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0112 EA 1/2" Nozzle Deflector Shield, Inergen® Fire Suppression System (Ansul 417708).....	37.16	12.24
21 22 16 00-0113 EA 3/4" Nozzle Deflector Shield, Inergen® Fire Suppression System (Ansul 417711).....	31.44	12.82
21 22 16 00-0114 EA 1" Nozzle Deflector Shield, Inergen® Fire Suppression System (Ansul 417714).....	106.27	14.81
21 22 16 00-0115 EA 1-1/4" Nozzle Deflector Shield, Inergen® Fire Suppression System (Ansul 417717).....	118.43	16.72
21 22 16 00-0116 EA 1-1/2" Nozzle Deflector Shield, Inergen® Fire Suppression System (Ansul 417720).....	135.86	19.22
21 22 16 00-0117 Nozzles, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0118 EA 1/4" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417908).....	133.47	18.95
21 22 16 00-0119 EA 3/8" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417723).....	138.48	19.51
21 22 16 00-0120 EA 1/2" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417362).....	127.73	18.06
21 22 16 00-0121 EA 3/4" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417363).....	130.76	19.51
21 22 16 00-0122 EA 1" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417364).....	151.86	21.46
21 22 16 00-0123 EA 1-1/4" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417365).....	162.36	22.85
21 22 16 00-0124 EA 1-1/2" NPT Nozzle, 360 Degree, Inergen® Fire Suppression System (Ansul 417366).....	174.78	24.52
21 22 16 00-0125 EA 2" NPT Nozzle, Inergen® Fire Suppression System (Ansul 426155).....	300.83	42.91
21 22 16 00-0126 EA 2-1/2" NPT Nozzle, Inergen® Fire Suppression System (Ansul 426156).....	397.75	56.29
21 22 16 00-0127 EA 3" NPT Nozzle, Inergen® Fire Suppression System (Ansul 426137).....	433.59	61.87
21 22 16 00-0128 EA 1/4" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426138).....	155.42	22.28
21 22 16 00-0129 EA 3/8" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426139).....	183.35	26.09
21 22 16 00-0130 EA 1/2" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426140).....	150.88	21.46
21 22 16 00-0131 EA 3/4" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426141).....	161.18	22.74
21 22 16 00-0132 EA 1" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426142).....	162.60	22.85
21 22 16 00-0133 EA 1-1/4" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426143).....	196.27	27.76
21 22 16 00-0134 EA 1-1/2" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426157).....	211.53	30.09
21 22 16 00-0135 EA 2" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426144).....	324.71	46.18
21 22 16 00-0136 EA 2-1/2" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426145).....	379.12	54.06
21 22 16 00-0137 EA 3" NPT Nozzle, 180 Degree Sidewall, Inergen® Fire Suppression System (Ansul 426146).....	415.42	59.07
21 22 16 00-0138 Pressure Reducers, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0139 EA 1/2" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416677).....	174.78	24.52
21 22 16 00-0140 EA 3/4" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416678).....	214.42	30.54
21 22 16 00-0141 EA 1" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416679).....	230.63	32.88
21 22 16 00-0142 EA 1-1/4" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416680).....	324.71	46.18
21 22 16 00-0143 EA 1-1/2" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416681).....	354.78	50.60
21 22 16 00-0144 EA 2" NPT, Orifice Union, Pressure Reducer, Inergen® Fire Suppression System (Ansul 416682).....	416.85	59.07
21 22 16 00-0145 EA 2-1/2" NPT, Orifice Nipple, Pressure Reducer, Inergen® Fire Suppression System (Ansul 417057).....	484.64	69.27
21 22 16 00-0146 EA 3" NPT, Orifice Nipple, Pressure Reducer, Inergen® Fire Suppression System (Ansul 417058).....	572.97	81.93
21 22 16 00-0147 EA 2-1/2" NPT, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426823).....	730.98	161.63
21 22 16 00-0148 EA 3" NPT, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426824).....	941.89	189.50
21 22 16 00-0149 EA 4" NPT, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426825).....	1,202.13	317.68
21 22 16 00-0150 EA 2-1/2" Slip-On, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426847).....	712.66	161.63
21 22 16 00-0151 EA 3" Slip-On, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426848).....	788.80	112.89
21 22 16 00-0152 EA 4" Slip-On, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426849).....	1,202.13	317.68
21 22 16 00-0153 EA 2-1/2" Weld Neck, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426853).....	728.08	161.63
21 22 16 00-0154 EA 3" Weld Neck, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426854).....	819.84	117.31
21 22 16 00-0155 EA 4" Weld Neck, Orifice Flanged, Pressure Reducer, Inergen® Fire Suppression System (Ansul 426855).....	1,178.99	317.68
21 22 16 00-0156 Pressure Switches, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0157 EA 3PST, Pressure Switch, Inergen® Fire Suppression System (Ansul 842344).....	820.52	123.17
21 22 16 00-0158 Releasing Device Equipment, Inergen® Fire Suppression System (21 22 16 00-0079)		
21 22 16 00-0159 EA 12 Or 24 Volt DC, Assembly, Automan II-C Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 17728).....	1,346.00	191.08
21 22 16 00-0160 EA 24 Volt DC, Explosion Proof Automan II-C Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 31492).....	1,916.79	254.63
21 22 16 00-0161 EA 120 Volt AC, Explosion Proof Automan II-C Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 32525).....	2,032.66	259.01
21 22 16 00-0162 EA Cocking Lever For Automan II-C Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 26310).....	95.04	13.17
21 22 16 00-0163 EA LT-30-R Nitrogen Cartridge, Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 5373).....	113.52	17.44
21 22 16 00-0164 EA Remote Actuator Booster With N2 Cartridge, Releasing Device Equipment, Inergen® Fire Suppression System (Ansul 28939).....	1,088.89	136.33

21	Fire Suppression
21 20	Fire-Extinguishing Systems
21 22	Clean-Agent Fire-Extinguishing Systems



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT UNIT COST DEMOLITION UNIT COST

21 22 16 00-0165		Replacement Orifice Plates, Inergen® Fire Suppression System (21 22 16 00-0079)			
21 22 16 00-0166	EA	1/2" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418095)	119.17	12.94	
21 22 16 00-0167	EA	3/4" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418096)	124.90	13.63	
21 22 16 00-0168	EA	1" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418097)	131.15	13.86	
21 22 16 00-0169	EA	1-1/4" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418098)	140.75	14.33	
21 22 16 00-0170	EA	1-1/2" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418099)	146.44	15.71	
21 22 16 00-0171	EA	2" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 418100)	147.09	16.98	
21 22 16 00-0172	EA	2-1/2" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 426984)	322.30	45.52	
21 22 16 00-0173	EA	3" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 426985)	325.17	45.98	
21 22 16 00-0174	EA	4" Replacement Orifice Plate, Inergen® Fire Suppression System (Ansul 426986)	416.85	58.92	
21 22 16 00-0175		Single Cylinder Bracketing, Inergen® Fire Suppression System (21 22 16 00-0079)			
21 22 16 00-0176	EA	Strap For 435 CF Cylinder, Single Cylinder Bracketing, Inergen® Fire Suppression System (Ansul 427704)	151.86	21.46	
21 22 16 00-0177	EA	Channel For 435 CF Cylinder, Single Cylinder Bracketing, Inergen® Fire Suppression System (Ansul 427705)	207.38	49.05	
21 22 16 00-0178		Single Mating Flanges, Flanged Manifold Orifices, Inergen® Fire Suppression System (21 22 16 00-0079)			
21 22 16 00-0179	EA	2-1/2" Threaded, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426856)	396.59	31.71	
		Note: Includes gasket and fasteners.			
21 22 16 00-0180	EA	3" Threaded, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426857)	332.82	47.35	
		Note: Includes gasket and fasteners.			
21 22 16 00-0181	EA	4" Threaded, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426858)	668.08	317.68	
		Note: Includes gasket and fasteners.			
21 22 16 00-0182	EA	2-1/2" Slip-On, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426859)	208.68	29.62	
		Note: Includes gasket and fasteners.			
21 22 16 00-0183	EA	3" Slip-On, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426860)	244.96	34.55	
		Note: Includes gasket and fasteners.			
21 22 16 00-0184	EA	4" Slip-On, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426861)	663.21	317.68	
		Note: Includes gasket and fasteners.			
21 22 16 00-0185	EA	2-1/2" Weld Neck, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426862)	217.26	31.02	
		Note: Includes gasket and fasteners.			
21 22 16 00-0186	EA	3" Weld Neck, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426863)	254.52	36.15	
		Note: Includes gasket and fasteners.			
21 22 16 00-0187	EA	4" Weld Neck, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426864)	687.31	317.68	
		Note: Includes gasket and fasteners.			
21 22 16 00-0188	EA	2-1/2" Flange Gasket, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426828)	42.69	2.35	
		Note: Includes a stainless steel inner ring and a carbon steel outer ring.			
21 22 16 00-0189	EA	3" Flange Gasket, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426829)	43.15	2.59	
		Note: Includes a stainless steel inner ring and a carbon steel outer ring.			
21 22 16 00-0190	EA	4" Flange Gasket, Single Mating Flange, Flanged Manifold Orifices, Inergen® Fire Suppression System (Ansul 426830)	46.47	3.06	
		Note: Includes a stainless steel inner ring and a carbon steel outer ring.			
21 22 16 00-0191		Upright And Feet, Cylinder Bracketing, Inergen® Fire Suppression System (21 22 16 00-0079)			
21 22 16 00-0192	EA	Center Upright Foot, Inergen® Fire Suppression System (Ansul 418508)	26.60	3.77	
21 22 16 00-0193	EA	Double Row, Back-To-Back Rows, Weigh Rail Support, Inergen® Fire Suppression System (Ansul 423027)	218.84	28.66	
21 22 16 00-0194	EA	85" High, Cylinder Bracketing For 425 CF And LC100 Cylinders, Inergen® Fire Suppression System (Ansul 426592)	162.95	28.66	
		Note: Includes upright, left, right and center.			
21 22 16 00-0195		Autopulse® Fire Detection And Control Equipment (21 22 16 00-0001)			
21 22 16 00-0196		Accessory Switches, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)			
21 22 16 00-0197	EA	Abort, Flush Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76495)	171.39	24.73	
21 22 16 00-0198	EA	Abort, Surface Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76494)	194.78	28.19	
21 22 16 00-0199	EA	Main/Reserve, Flush Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76497)	247.76	35.81	
21 22 16 00-0200	EA	Main/Reserve, Surface Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76496)	266.87	38.59	
21 22 16 00-0201	EA	Maintenance, Flush Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76499)	334.15	48.53	
21 22 16 00-0202	EA	Maintenance, Surface Mount Switch, Autopulse® Fire Detection And Control Equipment (Ansul 76498)	355.65	51.53	
21 22 16 00-0203	EA	Explosion Proof, Abort Switch, Autopulse® Fire Detection And Control Equipment (Ansul 65956)	681.68	99.36	
21 22 16 00-0204	EA	Single Gang, Surface Mount Back Box For Accessory Switches, Autopulse® Fire Detection And Control Equipment (Ansul 76490)	54.91	7.40	
21 22 16 00-0205		Alarm Devices, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)			
21 22 16 00-0206	EA	Selectable Candela Strobe, Alarm Devices, Autopulse® Fire Detection And Control Equipment (Ansul 429698)	148.47	21.49	



Fire Suppression		21	2
Fire-Extinguishing Systems		21 20	
Clean-Agent Fire-Extinguishing Systems		21 22	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0207	EA	Sync Module, Alarm Devices, Autopulse® Fire Detection And Control Equipment (Ansul 429699).....	217.70	31.43
21 22 16 00-0208	EA	Back Box Extender Adapter, Alarm Devices, Autopulse® Fire Detection And Control Equipment (Ansul 429702).....	19.86	2.86
21 22 16 00-0209		Annunciators, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)		
21 22 16 00-0210	EA	80 Character LCD, Annunciator, LCD-80, Autopulse® Fire Detection And Control Equipment (Ansul 417492).....	1,710.59	249.31
21 22 16 00-0211	EA	16 Zone Alarm/Trouble, Annunciator Control Module, ACM-16AT, Autopulse® Fire Detection And Control Equipment (Ansul 417496).....	1,433.98	208.87
21 22 16 00-0212	EA	16 Zone Alarm/Trouble, Annunciator Expander Module, AEM-16AT, Autopulse® Fire Detection And Control Equipment (Ansul 417497).....	1,113.18	162.20
21 22 16 00-0213	EA	32 Zone, Alarm Annunciator Expander Module, AEM-32A, Autopulse® Fire Detection And Control Equipment (Ansul 417500).....	969.53	141.17
21 22 16 00-0214	EA	Annunciator Lamp Driver Control Module, LDM-32, Autopulse® Fire Detection And Control Equipment (Ansul 417501).....	969.53	141.17
21 22 16 00-0215	EA	Annunciator Lamp Driver Expander Module, LDM-E32, Autopulse® Fire Detection And Control Equipment (Ansul 417502).....	776.67	112.99
21 22 16 00-0216	EA	Annunciator Lamp Driver Relay Module, LDM-R32, Autopulse® Fire Detection And Control Equipment (Ansul 417650).....	1,433.98	208.87
21 22 16 00-0217	EA	24", Annunciator Lamp Driver Cable, LDM-CBL24, Autopulse® Fire Detection And Control Equipment (Ansul 417651).....	291.67	42.28
21 22 16 00-0218	EA	48", Annunciator Lamp Driver Cable, LDM-CBL48, Autopulse® Fire Detection And Control Equipment (Ansul 417652).....	365.66	53.14
21 22 16 00-0219	EA	8 Relay, Annunciator Control Module, ACM-8R, Autopulse® Fire Detection And Control Equipment (Ansul 417653).....	733.22	106.74
21 22 16 00-0220	EA	Key Switch, AKS-1 Annunciator Accessory, Autopulse® Fire Detection And Control Equipment (Ansul 417660).....	123.89	17.90
21 22 16 00-0221	EA	Low Profile Annunciator Chassis, CHS-4L, Autopulse® Fire Detection And Control Equipment (Ansul 418576).....	168.49	24.73
21 22 16 00-0222	EA	Note: For up to 4 LDM modules. Flush, Single Annunciator Back Box, ABF-1, Autopulse® Fire Detection And Control Equipment (Ansul 417657).....	291.68	42.28
21 22 16 00-0223		Autopulse IQ-396X Cabinets/Accessories, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)		
21 22 16 00-0224	EA	CHS-4 Chassis, IQ-396X Cabinets/Accessories, Autopulse® Fire Detection And Control Equipment (Ansul 419586).....	226.65	34.43
21 22 16 00-0225	EA	REL 47K, In Line Supervisory Device, IQ-396X Cabinets/Accessories, Autopulse® Fire Detection And Control Equipment (Ansul 419639).....	14.01	2.36
21 22 16 00-0226	EA	REL 4.7K, In Line Supervisory Device, IQ-396X Cabinets/Accessories, Autopulse® Fire Detection And Control Equipment (Ansul 419640).....	98.34	2.86
21 22 16 00-0227	EA	REL 2.2K, In Line Supervisory Device, IQ-396X Cabinets/Accessories, Autopulse® Fire Detection And Control Equipment (Ansul 407765).....	15.14	2.86
21 22 16 00-0228		Autopulse IQ-396X Modules, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)		
21 22 16 00-0229	EA	Indicating Circuit Expander, IQ-396X Modules, ICE-4, Autopulse® Fire Detection And Control Equipment (Ansul 419564).....	503.83	77.17
21 22 16 00-0230	EA	Control Relay Expander, IQ-396X Modules, CRE-4, Autopulse® Fire Detection And Control Equipment (Ansul 419566).....	302.04	45.98
21 22 16 00-0231		Batteries And Power Supplies, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)		
21 22 16 00-0232	EA	7 Ampere Hours, 24 Volt DC, Battery Pack, Autopulse® Fire Detection And Control Equipment (Ansul 417692).....	222.70	29.57
21 22 16 00-0233	EA	12 Ampere Hours, 24 Volt DC, Battery Pack, Autopulse® Fire Detection And Control Equipment (Ansul 417693).....	465.73	62.61
21 22 16 00-0234	EA	18 Ampere Hours, 24 Volt DC, Battery Pack, Autopulse® Fire Detection And Control Equipment (Ansul 417694).....	525.56	70.93
21 22 16 00-0235	EA	25 Ampere Hours, 24 Volt DC, Battery Pack, Autopulse® Fire Detection And Control Equipment (Ansul 417695).....	687.00	86.41
21 22 16 00-0236	EA	55 Ampere Hours, 24 Volt DC, Battery Pack, Autopulse® Fire Detection And Control Equipment (Ansul 417997).....	1,107.44	149.96
21 22 16 00-0237	EA	BB-17, Red Battery Box, Autopulse® Fire Detection And Control Equipment (Ansul 418578).....	165.67	23.80
21 22 16 00-0238	EA	BB-25, Grey Cabinet, Autopulse® Fire Detection And Control Equipment (Ansul 428079).....	295.97	42.97
21 22 16 00-0239	EA	Note: Holds six XP5 modules or 25AH battery pack. BB-55, Red Battery Box, Autopulse® Fire Detection And Control Equipment (Ansul 419410).....	601.96	87.57
21 22 16 00-0240	EA	Note: For mounting in BB-55 battery box. Battery Charger, CHG-120, Autopulse® Fire Detection And Control Equipment (Ansul 426207).....	1,749.97	255.08
21 22 16 00-0241	EA	Note: For mounting in BB-55 battery box. 120 Volt AC, FCPS-24F, Red Remote Power Supply, Autopulse® Fire Detection And Control Equipment (Ansul 418563).....	1,279.78	186.46
21 22 16 00-0242		Intelligent Addressable Devices, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)		
21 22 16 00-0243	EA	Monitor Module, Intelligent Addressable Devices, FMM-1, Autopulse® Fire Detection And Control Equipment (Ansul 428097).....	134.84	19.76
21 22 16 00-0244	EA	Mini Monitor Module, Intelligent Addressable Devices, FMM-101, Autopulse® Fire Detection And Control Equipment (Ansul 428098).....	125.93	19.64
21 22 16 00-0245	EA	Isolator Module, Intelligent Addressable Devices, ISO-X, Autopulse® Fire Detection And Control Equipment (Ansul 417480).....	170.67	28.19
21 22 16 00-0246	EA	2-Wire Detector Monitor Module, Intelligent Addressable Devices, FZM-1, Autopulse® Fire Detection And Control Equipment (Ansul 428100).....	253.49	36.74
21 22 16 00-0247	EA	NAC Control Module, Intelligent Addressable Devices, FCM-1, Autopulse® Fire Detection And Control Equipment (Ansul 428101).....	197.07	29.80

21 Fire Suppression**21 20 Fire-Extinguishing Systems****21 22 Clean-Agent Fire-Extinguishing Systems**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0248	EA	Control Relay Module, Intelligent Addressable Devices, FRM-1, Autopulse® Fire Detection And Control Equipment (Ansl 428102)	185.11	28.66
21 22 16 00-0249	EA	Flangeless, Analog Addressable Detector Base, Intelligent Addressable Devices, B501, Autopulse® Fire Detection And Control Equipment (Ansl 417487)	29.49	4.57
21 22 16 00-0250	EA	Analog Addressable Detector Base With Isolator, Intelligent Addressable Devices, B224BI, Autopulse® Fire Detection And Control Equipment (Ansl 426125)	108.82	16.17
21 22 16 00-0251	EA	Harsh Detector, Analog Addressable Detector Base, Intelligent Addressable Devices, B710HD, Autopulse® Fire Detection And Control Equipment (Ansl 427066)	108.84	15.71
21 22 16 00-0252	EA	HPX-751 Detector Filter Cover, Intelligent Addressable Devices, FR-FTX, Autopulse® Fire Detection And Control Equipment (Ansl 427067)	38.58	12.94
21 22 16 00-0253	EA	Low Profile Trim Ring, Intelligent Addressable Devices, F110, Autopulse® Fire Detection And Control Equipment (Ansl 428138)	10.01	1.43
		Note: Converts BX501 to low profile base.		
21 22 16 00-0254	EA	Relay Base, Intelligent Addressable Devices, B224RB, Autopulse® Fire Detection And Control Equipment (Ansl 423945)	104.77	15.13
21 22 16 00-0255	EA	EOL Power Supervision Relay, Intelligent Addressable Devices, Autopulse® Fire Detection And Control Equipment (Ansl 417699)	61.38	8.92
21 22 16 00-0256	EA	XP5 Modules Cabinet, Intelligent Addressable Devices, BB-XP, Autopulse® Fire Detection And Control Equipment (Ansl 428078)	166.15	23.57
21 22 16 00-0257	EA	BB-25 Chassis, Intelligent Addressable Devices, CHS-6, Autopulse® Fire Detection And Control Equipment (Ansl 428080)	86.89	12.47
21 22 16 00-0258		Manual Pull Stations, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)		
21 22 16 00-0259	EA	Break Rod Package For Manual Pull Stations, Autopulse® Fire Detection And Control Equipment (Ansl 428661)	25.01	3.36
21 22 16 00-0260	EA	Key Pull Station For Manual Pull Stations, Autopulse® Fire Detection And Control Equipment (Ansl 418336)	15.51	1.84
21 22 16 00-0261		Transmitter/Relay Modules, Autopulse® Fire Detection And Control Equipment (21 22 16 00-0195)		
21 22 16 00-0262	EA	Transmitter Module, 4XTM, Autopulse® Fire Detection And Control Equipment (Ansl 417470)	217.70	31.43
		Note: Includes municipal box and remote station connection.		
21 22 16 00-0263	EA	Relay/Transmitter Module With 8 Form C Relay Contacts, RTM-8, Autopulse® Fire Detection And Control Equipment (Ansl 417471)	654.79	90.34
21 22 16 00-0264	EA	Universal Digital Alarm COM/XMTR Module, UDACT, Autopulse® Fire Detection And Control Equipment (Ansl 419411)	1,249.73	182.07
21 22 16 00-0265	EA	Ferrite Core For Transmitter/Relay Modules, Autopulse® Fire Detection And Control Equipment (Ansl 419635)	33.33	4.72
21 22 16 00-0266		Vesda® Aspirating Smoke Detection System (21 22 16 00-0001)		
21 22 16 00-0267		Batteries And Power Supplies, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)		
21 22 16 00-0268	EA	Transformer Only, VSP-TRAN-120, Vesda® Aspirating Smoke Detection System (Ansl 430482)	169.49	22.18
21 22 16 00-0269	EA	Battery Cabinet, VBC-001, Vesda® Aspirating Smoke Detection System (Ansl 430379)	407.90	33.44
21 22 16 00-0270	EA	120 Volt AC, Single Zone Power Supply With Housing, VPS-100US-120, Vesda® Aspirating Smoke Detection System (Ansl 430374)	942.36	129.39
21 22 16 00-0271	EA	220 Volt AC, Single Zone Power Supply With Housing, VPS-100US-220, Vesda® Aspirating Smoke Detection System (Ansl 430375)	942.36	129.39
21 22 16 00-0272	EA	120 Volt AC, Multi Zone Power Supply, VPS-300US-120, Vesda® Aspirating Smoke Detection System (Ansl 430376)	1,415.92	194.09
		Note: Includes housing and battery cab.		
21 22 16 00-0273	EA	220 Volt AC, Multi Zone Power Supply, VPS-300US-220, Vesda® Aspirating Smoke Detection System (Ansl 430377)	1,415.92	194.09
		Note: Includes housing and battery cab.		
21 22 16 00-0274	EA	48 Volt DC, Multi Zone Power Supply With Housing, VPS-400US-48, Vesda® Aspirating Smoke Detection System (Ansl 430378)	2,069.96	247.23
21 22 16 00-0275		Blank Plates, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)		
21 22 16 00-0276	EA	Blank Plate Without VESDA Logo, VSP-300, Vesda® Aspirating Smoke Detection System (Ansl 430459)	30.39	4.16
21 22 16 00-0277	EA	Blank Plate With VESDA Logo, VSP-000, Vesda® Aspirating Smoke Detection System (Ansl 430458)	45.91	4.16
21 22 16 00-0278	EA	Blank Plate, EMC Painted Without Logo, VSP-200, Vesda® Aspirating Smoke Detection System (Ansl 430484)	66.57	7.86
21 22 16 00-0279	EA	Single Blank Plate, VRE-001, Vesda® Aspirating Smoke Detection System (Ansl 430446)	103.83	8.78
21 22 16 00-0280	EA	Double Blank Plate, VRE-002, Vesda® Aspirating Smoke Detection System (Ansl 430447)	130.30	17.56
21 22 16 00-0281	EA	Blank Plate Without FOK LED's And Logo, VSP-100, Vesda® Aspirating Smoke Detection System (Ansl 430480)	241.80	22.18
21 22 16 00-0282		Detectors, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)		
21 22 16 00-0283	EA	LaserPLUS, Detector Only, Enclosure, VLP-000, Vesda® Aspirating Smoke Detection System (Ansl 430350)	7,112.39	1,085.96
		Note: Includes 3 blank plates.		
21 22 16 00-0284	EA	LaserPLUS Detector, VLP-012, Vesda® Aspirating Smoke Detection System (Ansl 430354)	9,076.52	1,340.11
		Note: Includes centrally mounted LCD programmer module and standard display.		
21 22 16 00-0285	EA	LaserPLUS Detector, VLP-010, Vesda® Aspirating Smoke Detection System (Ansl 430356)	8,206.68	1,224.58
		Note: Includes centrally mounted LCD programmer.		
21 22 16 00-0286	EA	7-Relay Version, LaserSCANNER Detector Only, VLS-200, Vesda® Aspirating Smoke Detection System (Ansl 430357)	11,414.82	1,617.38
21 22 16 00-0287	EA	12-Relay Version, LaserSCANNER Detector Only, VLS-300, Vesda® Aspirating Smoke Detection System (Ansl 430358)	12,017.60	1,709.81



Fire Suppression		21
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MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0288	EA	7-Relay Version, LaserSCANNER Detector Only, VLS-600, Vesda® Aspirating Smoke Detection System (Ansul 430359).....	11,540.19	1,640.48
Note: Includes 1 fire alarm (any SCT) and OK/FOK LEDs.				
21 22 16 00-0289	EA	12-Relay Version, LaserSCANNER Detector Only, VLS-700, Vesda® Aspirating Smoke Detection System (Ansul 430360).....	12,187.86	1,732.91
Note: Includes 1 fire alarm (any SCT) and OK/FOK LED.				
21 22 16 00-0290	EA	7-Relay, LaserSCANNER Detector Only, VLS-204, Vesda® Aspirating Smoke Detection System (Ansul 430361).....	12,535.30	1,802.22
Note: Includes 2 blank plates and scan display module at far right.				
21 22 16 00-0291	EA	12-Relay, LaserSCANNER Detector, VLS-304, Vesda® Aspirating Smoke Detection System (Ansul 430363).....	13,078.62	1,894.65
Note: Includes 2 blank plates and scanner display.				
21 22 16 00-0292	EA	7-Relay, LaserSCANNER Detector, VLS-214, Vesda® Aspirating Smoke Detection System (Ansul 430365).....	13,746.99	1,987.07
Note: Includes centrally mounted programmer module.				
21 22 16 00-0293	EA	12-Relay, LaserSCANNER Detector, VLS-314, Vesda® Aspirating Smoke Detection System (Ansul 430367).....	14,333.69	2,079.49
Note: Includes centrally mounted LCD programmer module and scanner display module.				
21 22 16 00-0294	EA	12-Relay, LaserSCANNER Detector, VLS-310, Vesda® Aspirating Smoke Detection System (Ansul 430369).....	13,473.26	1,894.65
Note: Includes centrally mounted LCD programmer.				
21 22 16 00-0295	Displays, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)			
21 22 16 00-0296	EA	VRT-200 Display, Standard Version, Vesda® Aspirating Smoke Detection System (Ansul 430381).....	2,166.59	254.16
Note: Includes a remote termination card and 7 relays.				
21 22 16 00-0297	EA	VRT-400 Display, Scanner Version, Vesda® Aspirating Smoke Detection System (Ansul 430385).....	2,177.21	254.16
Note: Includes a remote termination card and 7 relays.				
21 22 16 00-0298	EA	VRT-600 Display, Standard Version, Vesda® Aspirating Smoke Detection System (Ansul 430383).....	1,962.09	231.06
Note: Includes a remote termination card without relays.				
21 22 16 00-0299	EA	VRT-700 Display, Scanner Version, Vesda® Aspirating Smoke Detection System (Ansul 430387).....	1,974.42	231.06
Note: Includes a remote termination card.				
21 22 16 00-0300	EA	VRT-800 Display, Scanner Version, Vesda® Aspirating Smoke Detection System (Ansul 430389).....	2,440.82	277.27
Note: Includes a remote termination card and 12 relays.				
21 22 16 00-0301	EA	VRT-K00 Display, Compact Version Without Relays, Vesda® Aspirating Smoke Detection System (Ansul 430391).....	2,074.03	240.30
21 22 16 00-0302	EA	VRT-J00 Display, Compact Version With 7 Relays, Vesda® Aspirating Smoke Detection System (Ansul 430393).....	2,270.08	269.87
21 22 16 00-0303	Intelligent Addressable Devices, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)			
21 22 16 00-0304	EA	LaserCOMPACT (VN), VESDAnet Version Plus Relay Output, VLC-505, Vesda® Aspirating Smoke Detection System (Ansul 430370).....	5,443.93	762.48
21 22 16 00-0305	EA	LaserCOMPACT (RO), Relay Only Version, VLC-500, Vesda® Aspirating Smoke Detection System (Ansul 430372).....	4,484.12	609.98
21 22 16 00-0306	EA	Programmer With Remote Termination Card, VRT-100, Vesda® Aspirating Smoke Detection System (Ansul 430380).....	1,584.90	231.06
21 22 16 00-0307	EA	VESDAnet Socket, VRT-300, Vesda® Aspirating Smoke Detection System (Ansul 430395).....	1,141.53	150.19
21 22 16 00-0308	EA	System Relay Module, VRT-S07, Vesda® Aspirating Smoke Detection System (Ansul 430399).....	1,590.67	202.40
21 22 16 00-0309	EA	PC-Link High-Level Interface, VHX-0200, Vesda® Aspirating Smoke Detection System (Ansul 430442).....	2,372.27	249.54
Note: Interface connects PC and LaserPLUS system.				
21 22 16 00-0310	EA	Modem Cable, PC-HLI To Modem Connection, VHX-00090, Vesda® Aspirating Smoke Detection System (Ansul 430443).....	300.07	37.43
21 22 16 00-0311	EA	Hand-Held Programmer, VHH-1000, Vesda® Aspirating Smoke Detection System (Ansul 430444).....	2,007.19	231.06
21 22 16 00-0312	EA	Programmer Module, VSP-001, Vesda® Aspirating Smoke Detection System (Ansul 430460).....	1,432.77	191.77
21 22 16 00-0313	EA	VESDAnet Socket Kit, VSP-003, Vesda® Aspirating Smoke Detection System (Ansul 430463).....	1,125.35	147.87
21 22 16 00-0314	EA	Standard Display Module, VSP-002, Vesda® Aspirating Smoke Detection System (Ansul 430461).....	1,435.08	191.77
21 22 16 00-0315	EA	Scanner Display Module, VSP-004, Vesda® Aspirating Smoke Detection System (Ansul 430464).....	1,432.77	191.77
21 22 16 00-0316	EA	Remote Display Module, Compact (VN), VSP-502, Vesda® Aspirating Smoke Detection System (Ansul 430487).....	1,417.01	180.23
21 22 16 00-0317	EA	Filter Cartridge, VSP-005, Vesda® Aspirating Smoke Detection System (Ansul 430466).....	168.82	16.17
21 22 16 00-0318	EA	Detector Chassis Assembly, VSP-006, Vesda® Aspirating Smoke Detection System (Ansul 430467).....	6,846.00	887.25
21 22 16 00-0319	EA	Scanner Chassis Assembly, VSP-009, Vesda® Aspirating Smoke Detection System (Ansul 430470).....	11,928.97	1,552.68
21 22 16 00-0320	EA	Aspirator For LaserPLUS And Laser Scanner, VSP-015, Vesda® Aspirating Smoke Detection System (Ansul 430475).....	932.37	115.53
21 22 16 00-0321	EA	Filter Cover, VSP-019, Vesda® Aspirating Smoke Detection System (Ansul 430477).....	21.23	2.31
21 22 16 00-0322	EA	Cover Screws, 17606, Vesda® Aspirating Smoke Detection System (Ansul 430478).....	12.01	0.46
21 22 16 00-0323	EA	US Power Supply Circuit Board Only, VSP-100, Vesda® Aspirating Smoke Detection System (Ansul 430481).....	513.53	67.00
21 22 16 00-0324	EA	Relay Processor Module (DRP), VSP-102, Vesda® Aspirating Smoke Detection System (Ansul 430483).....	622.15	81.33
21 22 16 00-0325	EA	Aspirator, LaserCOMPACT, VSP-501, Vesda® Aspirating Smoke Detection System (Ansul 430486).....	898.10	117.84
21 22 16 00-0326	EA	RO-Cable For LaserCOMPACT Relay Only, (RO) Version, VSP-509, Vesda® Aspirating Smoke Detection System (Ansul 430488).....	132.33	17.56
21 22 16 00-0327	EA	Miniature Sampling Point, E700-SP, Vesda® Aspirating Smoke Detection System (Ansul 430502).....	20.64	3.70
21 22 16 00-0328	Labels And Decals, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)			
21 22 16 00-0329	EA	Sampling Point Labels, Roll Of 35, E700-SP-DCL-PIPE, Vesda® Aspirating Smoke Detection System (Ansul 430509).....	18.77	2.77
21 22 16 00-0330	EA	Round Point Label, Roll Of 50, E700-SP-DCL-PNT, Vesda® Aspirating Smoke Detection System (Ansul 430505).....	19.70	3.23
21 22 16 00-0331	EA	Red, Round, Miniature Sampling Point Label, Sheet Of 12, E700-SPLR, Vesda® Aspirating Smoke Detection System (Ansul 430506).....	30.39	4.16
21 22 16 00-0332	EA	Grey, Round, Miniature Sampling Point Label, Sheet Of 12, E700-SPLG, Vesda® Aspirating Smoke Detection System (Ansul 430507).....	30.43	4.16
21 22 16 00-0333	EA	Sampling Point Decal, Wrap-Around Style, Roll Of 200, E700-SP-DCL, Vesda® Aspirating Smoke Detection System (Ansul 430508).....	110.31	15.71
21 22 16 00-0334	Mounting Hardware, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)			

21 Fire Suppression**21 20 Fire-Extinguishing Systems****21 22 Clean-Agent Fire-Extinguishing Systems**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0335	EA	Remote Mounting Single Box With Escutcheon Only, VKT-000, Vesda® Aspirating Smoke Detection System (Ansul 430456)	272.57	33.27
21 22 16 00-0336	EA	Recessed Mounting Kit For Remote Single Boxes, VSP-012, Vesda® Aspirating Smoke Detection System (Ansul 430472)	367.24	44.36
21 22 16 00-0337	EA	Recessed Mounting Kit For VLP Or VLS Detector, VSP-011, Vesda® Aspirating Smoke Detection System (Ansul 430471)	375.64	48.53
21 22 16 00-0338	EA	Remote 19 Sub Rack With 4 Blank Plates, VSR-0000, Vesda® Aspirating Smoke Detection System (Ansul 430457)	914.91	69.31
21 22 16 00-0339	EA	Sub Rack Enclosure, VRE-100, Vesda® Aspirating Smoke Detection System (Ansul 430445)	1,345.31	152.50
21 22 16 00-0340		Pipe And Fittings, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)		
21 22 16 00-0341	LF	3/4", Orange Chlorinated Polyvinyl Chloride (CPVC) Pipe, Vesda® Aspirating Smoke Detection System (Ansul 430491)	5.83	1.76
21 22 16 00-0342	EA	3/4", End Cap, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430497)	10.00	3.53
21 22 16 00-0343	EA	3/4", 45 Degree Elbow, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430494)	27.59	10.57
21 22 16 00-0344	EA	3/4", 90 Degree Elbow, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430493)	28.46	10.57
21 22 16 00-0345	EA	3/4", Coupling, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430495)	19.59	7.04
21 22 16 00-0346	EA	3/4", Union, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430496)	31.49	10.57
21 22 16 00-0347	EA	3/4", Tee, Chlorinated Polyvinyl Chloride (CPVC) Socket Weld, Vesda® Aspirating Smoke Detection System (Ansul 430498)	42.34	15.85
21 22 16 00-0348	EA	3/4" x 1/2" FPT, Tee, Chlorinated Polyvinyl Chloride (CPVC), Vesda® Aspirating Smoke Detection System (Ansul 430499)	52.84	18.60
21 22 16 00-0349	LF	1/2" OD x 3/8" ID, Black Polyethylene Tubing, Vesda® Aspirating Smoke Detection System (Ansul 430500)	4.91	1.67
21 22 16 00-0350	EA	Pipe Adapters, Metric-To-Imperial, VSP-021, Vesda® Aspirating Smoke Detection System (Ansul 430479)	19.65	5.08
21 22 16 00-0351	EA	Capillary Kit, 1 Male 1/2" TH x 1/2" OD, 1 Female 1/2" OD, Plastic, E700-CAP KIT, Vesda® Aspirating Smoke Detection System (Ansul 430503)	24.03	3.70
21 22 16 00-0352	EA	Capillary Kit, 1 Male 1/2" TH x 1/2" OD, 1 Female 1/2" OD, Brass, Vesda® Aspirating Smoke Detection System (Ansul 430504)	34.47	5.08
21 22 16 00-0353		Remote Termination And Relay Cards, Vesda® Aspirating Smoke Detection System (21 22 16 00-0266)		
21 22 16 00-0354	EA	VRT-500, Remote Termination And Relay Proc Card With Blank Plates, Vesda® Aspirating Smoke Detection System (Ansul 430396)	1,573.83	177.45
		Note: Remote box includes 7 relays for VLP/VLC.		
21 22 16 00-0355	EA	VN, Compact Termination Card, VSP-515, Vesda® Aspirating Smoke Detection System (Ansul 430490)	1,603.84	204.26
21 22 16 00-0356	EA	12-Relay, Remote Termination Card, VSP-208, Vesda® Aspirating Smoke Detection System (Ansul 430485)	970.76	124.77
21 22 16 00-0357	EA	RO, Compact Termination Card, VSP-510, Vesda® Aspirating Smoke Detection System (Ansul 430489)	1,109.25	140.94
21 22 16 00-0358	EA	VRT-501, Remote Termination And Relay Proc Card With Blank Plates, Vesda® Aspirating Smoke Detection System (Ansul 430397)	1,573.83	177.45
		Note: Remote box includes 7 relays for VLS.		
21 22 16 00-0359	EA	VRT-900 Remote Termination And Relay Proc Card With Blank Plates, Vesda® Aspirating Smoke Detection System (Ansul 430398)	1,899.36	204.26
		Note: Remote box includes 12 relays for VLS.		
21 22 16 00-0360	EA	Remote Termination Card Without Relay, VSP-007, Vesda® Aspirating Smoke Detection System (Ansul 430468)	538.71	62.84
21 22 16 00-0361	EA	Remote Termination Card (RTC7), VSP-008, Vesda® Aspirating Smoke Detection System (Ansul 430469)	810.24	96.12
21 22 16 00-0362	EA	7-Relay, Head Termination Card, VSP-014, Vesda® Aspirating Smoke Detection System (Ansul 430474)	1,525.70	198.71
21 22 16 00-0363	EA	12-Relay, Head Termination Card, VSP-016, Vesda® Aspirating Smoke Detection System (Ansul 430476)	2,238.22	291.13
21 22 16 00-0364		Preferred® Low Pressure CO2 System (21 22 16 00-0001)		
21 22 16 00-0365		Manual Pull Stations, Preferred® Low Pressure CO2 System (21 22 16 00-0364)		
21 22 16 00-0366	EA	Addressable, DPST, Dual Action Pull Station, Preferred® Low Pressure CO2 System (Ansul 428658)	120.82	16.17
		Note: Excludes FMM-101.		
21 22 16 00-0367	EA	Weatherproof Backbox For Manual Pull Stations, Preferred® Low Pressure CO2 System (Ansul 428659)	90.37	12.01
21 22 16 00-0368		Industrial Fire Control System (21 22 16 00-0001)		
21 22 16 00-0369		Alarm Devices, Industrial Fire Control System (21 22 16 00-0368)		
21 22 16 00-0370	EA	Explosion Proof Alarm Horn, Alarm Devices, Industrial Fire Control System (Ansul 65947)	2,923.77	426.30
21 22 16 00-0371	EA	6", 115 Volt AC Alarm Bell For Release Systems, Alarm Devices, Industrial Fire Control System (Ansul 24751)	89.49	9.79
21 22 16 00-0372	EA	24 Volt AC, Multitone Horn, Alarm Devices, Industrial Fire Control System (Ansul 429697)	88.32	12.71
21 22 16 00-0373	EA	Weatherproof Surface Back Box For Horn And Strobe, Alarm Devices, Industrial Fire Control System (Ansul 429700)	52.61	7.63
21 22 16 00-0374	EA	Semi-Flush Plate, Alarm Devices, Industrial Fire Control System (Ansul 429701)	21.50	3.09
21 22 16 00-0375		Manual Pull Stations, Industrial Fire Control System (21 22 16 00-0368)		
21 22 16 00-0376	EA	SPST, Dual Action Pull Station, Industrial Fire Control System (Ansul 428655)	99.83	13.40
21 22 16 00-0377	EA	DPST, Dual Action Pull Station, Industrial Fire Control System (Ansul 428656)	140.76	18.94
21 22 16 00-0378	EA	Explosion Proof, DPDT, Dual Action Pull Station, Industrial Fire Control System (Ansul 428657)	1,098.96	148.80
21 22 16 00-0379	EA	Surface Mounted Backbox For Manual Pull Stations, Industrial Fire Control System (Ansul 428660)	31.95	4.30
21 22 16 00-0380	EA	Extra Pull Station Labels For Manual Pull Stations, Industrial Fire Control System (Ansul 428654)	14.32	1.91



Fire Suppression			21
Fire-Extinguishing Systems			21 20
Clean-Agent Fire-Extinguishing Systems			21 22

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 22 16 00-0381			Marine Fire Control System (21 22 16 00-0001)		
21 22 16 00-0382			Alarm Devices, Marine Fire Control System (21 22 16 00-0381)		
21 22 16 00-0383	EA		Weatherproof Surface Mount Back Box For Alarm Accessories, Alarm Devices, Marine Fire Control System (Ansul 24747)	57.91	7.76
21 22 16 00-0384	EA		6", 24 Volt DC, Alarm Bell, Alarm Devices, Marine Fire Control System (Ansul 417805)	106.69	15.02
21 22 16 00-0385	EA		10", 24 Volt DC, Alarm Bell, Alarm Devices, Marine Fire Control System (Ansul 417806)	106.69	15.02
21 22 16 00-0386			FM200 System Equipment (21 22 16)		
21 22 16 00-0387	EA		26 LB Cylinder, Filled, For FM200 Fire Protection system.....	3,613.07	111.47
21 22 16 00-0388	EA		44 LB Cylinder, Filled, For FM200 Fire Protection system.....	5,186.34	127.63
21 22 16 00-0389	EA		63 LB Cylinder, Filled, For FM200 Fire Protection system.....	6,156.62	150.48
21 22 16 00-0390	EA		101 LB Cylinder, Filled, For FM200 Fire Protection system.....	8,164.25	178.34
21 22 16 00-0391	EA		196 LB Cylinder, Filled, For FM200 Fire Protection system.....	12,773.65	222.93
21 22 16 00-0392	EA		Electro/Mechanical Release, For FM200 Fire Protection system	754.06	222.93
21 22 16 00-0393	EA		Manual Pull Station, For FM200 Fire Protection system	263.80	74.13
21 22 16 00-0394	EA		Pneumatic Damper Release, For FM200 Fire Protection system	329.77	55.73
21 22 16 00-0395	LB		FM200 Gas	27.91	
21 22 16 00-0396	EA		Master Cylinder, For FM200 Fire Protection system.....	5,922.04	59.97
21 22 16 00-0397	EA		Shuttle Check Valve, For FM200 Fire Protection system	834.43	83.82
21 22 16 00-0398	EA		Flex Head Cylinder, For FM200 Fire Protection system.....	830.17	89.84
21 22 16 00-0399	EA		Nozzles, For FM200 Fire Protection system.....	204.81	31.77
21 22 16 00-0400	EA		Cylinder Support, For FM200 Fire Protection system	235.11	59.97
21 22 16 00-0401	EA		Solenoid Valve, For FM200 Fire Protection system	1,081.28	89.84
21 22 16 00-0402	EA		Battery Back-Up, For FM200 Fire Protection system.....	778.53	236.97
21 22 16 00-0403	EA		Control Panel, Single Zone, For FM200 Fire Protection system.....	4,229.07	445.19
21 22 16 00-0404	EA		Control Panel, Multi Zone, For FM200 Fire Protection system	6,816.72	891.39
21 22 16 00-0405	EA		Smoke Or Heat Detector, For FM200 Fire Protection system	328.34	89.84
21 22 16 00-0406	EA		Annunciator, For FM200 Fire Protection system.....	3,429.78	337.41
21 22 16 00-0407	EA		Pressure Switch, For FM200 Fire Protection system.....	357.96	89.84
21 22 16 00-0408	EA		Alarm Horn, For FM200 Fire Protection system.....	325.48	89.84
21 22 16 00-0409	EA		Testing, For FM200 Fire Protection system.....	1,533.56	
21 22 16 00-0410	EA		Abort Switch, For FM200 Fire Protection system.....	229.30	41.79
21 23			Wet-Chemical Fire-Extinguishing Systems (21 20)		
21 23 16			Wet-Chemical Fire-Extinguishing Equipment (21 23)		
21 23 16 00-0001			Kidde Fire Systems (21 23 16)		
			Note: Kidde or equal.		
21 23 16 00-0002			Cylinders And Hardware (21 23 16 00-0001)		
21 23 16 00-0003	EA		125 Cylinder And Valve Assembly With 1.25 Gallon Of Wet Agent.....	909.74	92.34
21 23 16 00-0004	EA		260 Cylinder And Valve Assembly With 2.6 Gallon Of Wet Agent.....	1,045.07	115.02
21 23 16 00-0005	EA		400S And M Cylinder And Valve Assembly With 4 Gallon Of Wet Agent	1,280.58	141.90
21 23 16 00-0006	EA		600 And L Cylinder And Valve Assembly With 6 Gallon Of Wet Agent	1,512.17	168.37
21 23 16 00-0007	EA		Discharge Adapter Kit (One Required Per Cylinder).....	50.99	4.83
21 23 16 00-0008	EA		System Valve Actuator	183.16	19.19
21 23 16 00-0009	EA		Vent Plug	34.35	3.90
21 23 16 00-0010	EA		Gauge Shield.....	93.03	10.26
21 23 16 00-0011	EA		125 Cylinder Wall Mounting Bracket.....	94.38	10.26
21 23 16 00-0012	EA		260 Cylinder Wall Mounting Bracket.....	100.05	10.87
21 23 16 00-0013	EA		400S And M Cylinder Wall Mounting Bracket.....	190.18	20.52
21 23 16 00-0014	EA		600 And 400M Cylinder Shelf Bracket.....	186.85	23.29
21 23 16 00-0015	EA		600 And 400M Cylinder Floor Mounting Kit	276.66	23.35
21 23 16 00-0016	EA		125 And 260 Cylinder Replacement Bracket Strap.....	37.19	
21 23 16 00-0017	EA		400 And 600 Cylinder Replacement Bracket Strap.....	39.27	
21 23 16 00-0018			Nozzles And Accessories (21 23 16 00-0001)		
21 23 16 00-0019	EA		ADP, F, GRW Or R Nozzle.....	84.64	9.44
21 23 16 00-0020	EA		LPF Or DM Nozzle.....	92.02	9.44
21 23 16 00-0021	EA		LPR Nozzle	107.23	9.44
21 23 16 00-0022	EA		3/8" Swivel Adapter For Nozzles	63.51	6.67
21 23 16 00-0023	EA		Removal And Replacement Of Nozzle Seals	10.01	
21 23 16 00-0024	EA		Chrome Nozzle Disc Cap	6.17	0.61
21 23 16 00-0025	EA		LPR Nozzle Disc Cap	35.34	9.39
21 23 16 00-0026			Control Systems (21 23 16 00-0001)		
21 23 16 00-0027	EA		XV Control System	1,181.82	61.56
			Note: Includes (1) SVA, (1) system cartridge, (1) test cartridge, (1) EMT connector kit, (1) SPDT microswitch kit, and (1) SPDT microswitch kit.		
21 23 16 00-0028	EA		7-1/2" High Pressure Hose (Required for cylinder mounted XV Control System).....	99.25	10.26
21 23 16 00-0029	EA		24" High Pressure Hose	117.89	10.26
21 23 16 00-0030	EA		60" High Pressure Hose	159.33	10.26
21 23 16 00-0031	EA		XV Solenoid Kit (Electric Actuator), 24 Volt DC	229.57	20.52

21 Fire Suppression**21 20 Fire-Extinguishing Systems****21 23 Wet-Chemical Fire-Extinguishing Systems**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 23 16 00-0032	EA		XV Microswitch Kit, SPDT.....	75.23	9.64
21 23 16 00-0033	EA		XV Microswitch Kit, SPDT, Terminal Type, For Alarm/Release.....	81.44	9.64
21 23 16 00-0034	EA		EMT Connector Kit (EMT Connector And O-Ring).....	31.96	7.70
21 23 16 00-0035	EA		KRS-50 Control Box Assembly.....	663.76	39.76
			Note: Includes (1) SVA, (2) CO2 cartridges, (2) set screws, (1) grommet, (1) cover label, and (1) exhaust fan caution label.		
21 23 16 00-0036	EA		SPDT Microswitch For KRS-50.....	88.67	9.64
21 23 16 00-0037	EA		DPDT Microswitch For KRS-50.....	160.46	16.73
21 23 16 00-0038	EA		SPDT Pressure Switch (Fire Department Tie-In).....	492.65	53.66
21 23 16 00-0039			Mechanical Actuation Components (21 23 16 00-0001)		
21 23 16 00-0040	EA		Universal Detector Link Housing Kit, Mechanical Actuation Systems.....	55.88	15.39
			Note: Includes (1) bracket (11-3/4"), (2) "S" hook, and (2) cable crimp sleeves.		
21 23 16 00-0041	EA		XV Low Profile Link Detector Housing Kit.....	84.65	15.39
			Note: Includes (1) bracket, (2) 1/2" EMT connectors, (4) cable crimp sleeves, and (1) S hook.		
21 23 16 00-0042	EA		XV Or KRS-50 Remote Manual Release, Combination Pull-To-Trip/Release-To-Trip.....	235.99	10.26
21 23 16 00-0043	EA		XV Remote Manual Release, Pull-To-Trip.....	180.05	10.26
21 23 16 00-0044	EA		Corner Pulley, Mechanical Actuation Systems.....	24.73	2.77
21 23 16 00-0045	EA		Double Tee Pulley, Mechanical Actuation Systems.....	342.41	16.93
21 23 16 00-0046	EA		In-Line Tee Pulley, Mechanical Actuation Systems.....	41.45	4.51
21 23 16 00-0047	EA		Corner Pulley / Quik-Seal Adapter Combination.....	95.20	5.13
21 23 16 00-0048	LF		1/16" Cable, Mechanical Actuation Systems.....	2.52	1.03
21 23 16 00-0049	EA		Cable Clamp.....	13.46	0.51
21 23 16 00-0050	EA		Cable Crimp Sleeve, Mechanical Actuation Systems.....	1.63	0.41
21 23 16 00-0051	EA		"S" Hook, Mechanical Actuation Systems.....	1.57	0.41
21 23 16 00-0052	EA		1/2" EMT x 3/8" NPT Adapter, Mechanical Actuation Systems.....	88.43	9.54
21 23 16 00-0053			Mechanical Detection Links (21 23 16 00-0001)		
21 23 16 00-0054	EA		KGS Standard Response Link.....	18.82	5.13
21 23 16 00-0055	EA		KGS Rapid Response Link.....	27.39	5.13
21 23 16 00-0056	EA		KFA Type "A" Fusible Link.....	23.55	5.13
21 23 16 00-0057	EA		KML Type "ML" Fusible Link.....	24.76	5.13
21 23 16 00-0058	EA		500 Degree, KML Type "ML" Fusible Link.....	37.19	5.13
21 23 16 00-0059			Gas Valves (21 23 16 00-0001)		
21 23 16 00-0060	EA		3/4" NPT Mechanical Cable Operated Gas Shut-off Valve.....	400.16	22.16
21 23 16 00-0061	EA		1" NPT Mechanical Cable Operated Gas Shut-off Valve.....	435.57	27.30
21 23 16 00-0062	EA		1-1/4" NPT Mechanical Cable Operated Gas Shut-off Valve.....	500.20	34.47
21 23 16 00-0063	EA		1-1/2" NPT Mechanical Cable Operated Gas Shut-off Valve.....	548.89	39.71
21 23 16 00-0064	EA		2" NPT Mechanical Cable Operated Gas Shut-off Valve.....	592.84	46.89
21 23 16 00-0065	EA		2-1/2" NPT Mechanical Cable Operated Gas Shut-off Valve.....	983.11	68.54
21 23 16 00-0066	EA		3" NPT Mechanical Cable Operated Gas Shut-off Valve.....	1,097.79	79.31
21 23 16 00-0067	EA		Pneumatic Release (Single Unit).....	454.56	25.04
21 23 16 00-0068	EA		Removal And Replacement Of Cable Block And Set Screw Assembly For Gas Valve.....	60.97	
21 23 16 00-0069	EA		1/2" Electric Solenoid Gas Shut-off Valve.....	417.74	20.63
21 23 16 00-0070	EA		3/4" Electric Solenoid Gas Shut-off Valve.....	420.83	22.16
21 23 16 00-0071	EA		1" Electric Solenoid Gas Shut-off Valve.....	649.68	27.30
21 23 16 00-0072	EA		1-1/4" Electric Solenoid Gas Shut-off Valve.....	687.73	34.47
21 23 16 00-0073	EA		1-1/2" Electric Solenoid Gas Shut-off Valve.....	789.57	39.71
21 23 16 00-0074	EA		2" Electric Solenoid Gas Shut-off Valve.....	1,015.15	46.89
21 23 16 00-0075	EA		2-1/2" Electric Solenoid Gas Shut-off Valve.....	1,678.59	68.54
21 23 16 00-0076	EA		3" Electric Solenoid Gas Shut-off Valve.....	2,109.26	79.31
21 23 16 00-0077	EA		Manual Reset Relay.....	568.04	103.11
21 23 16 00-0078			Liquid Tight Sealing Adapters (21 23 16 00-0001)		
21 23 16 00-0079	EA		3/8" Tubing, Compression Seal Adapter.....	45.53	4.31
21 23 16 00-0080	EA		1/2" Tubing, 1/4" Pipe, Compression Seal Adapter.....	44.81	4.72
21 23 16 00-0081	EA		5/8" Tubing, 3/8" Pipe, Compression Seal Adapter.....	52.60	5.64
21 23 16 00-0082	EA		3/4" Tubing, 1/2" Pipe, Compression Seal Adapter.....	60.75	6.06
21 23 16 00-0083	EA		1/2" Electrical Metallic Tubing (EMT), Compression Seal Adapter.....	52.60	5.64
21 23 16 00-0084	EA		3/8" NPT Female, Quik-Seal Adapter.....	44.81	4.72
21 23 16 00-0085	EA		1/2" NPT Female, Quik-Seal Adapter.....	44.81	4.72
21 23 16 00-0086	EA		3/4" NPT Female, Quik-Seal Adapter.....	73.56	8.00
21 23 16 00-0087	EA		1" NPT Female, Quik-Seal Adapter.....	97.94	10.57
21 23 16 00-0088	EA		Quik-Patch For Hole Patching Up To 1-1/8" Diameter.....	44.81	
21 23 16 00-0089			Pressure Operated Releasing Systems (21 23 16 00-0001)		
21 23 16 00-0090	EA		KRS-100 Nitrogen Cylinder.....	326.25	30.99
21 23 16 00-0091	EA		KRS-100 Actuator Assembly.....	292.05	31.60
21 23 16 00-0092	EA		KRS-100 Mounting Bracket.....	231.08	7.80
21 23 16 00-0093	EA		KRS-700S Nitrogen Cylinder.....	838.73	89.37
21 23 16 00-0094	EA		KRS-700 Mounting Bracket.....	178.53	19.09
21 23 16 00-0095	EA		KRS-700S Discharge Adapter Kit.....	271.37	19.09
21 23 16 00-0096	EA		Check Valve, Pressure Operated Releasing Systems.....	269.22	13.54
21 23 16 00-0097	EA		Vent Check, Pressure Operated Releasing Systems.....	82.30	8.62



Fire Suppression		21	21
Fire-Extinguishing Systems		21 20	
Wet-Chemical Fire-Extinguishing Systems		21 23	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 23 16 00-0098 EA Removal And Replacement Of Receiver Gasket For KRS-100 Actuator Assembly	10.87	
21 23 16 00-0099 EA 3 Pole, Double Throw Pressure Switch	672.26	71.83
21 23 16 00-0100 Pyro-Chem Kitchen Fire Suppression Systems (21 23 16)		
21 23 16 00-0101 Cylinders, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0102 EA 3.0 Gallon Agent Cylinder With Valve, Kitchen Fire Suppression Systems (Pyro-Chem 551194)	870.59	72.85
21 23 16 00-0103 EA 4.6 Gallon Agent Cylinder With Valve, Kitchen Fire Suppression Systems (Pyro-Chem 551193)	1,254.03	104.97
21 23 16 00-0104 EA 6.0 Gallon Agent Cylinder With Valve, Kitchen Fire Suppression Systems (Pyro-Chem 551196)	1,645.87	143.54
21 23 16 00-0105 EA Cylinder Mounting Bracket, Kitchen Fire Suppression Systems (Pyro-Chem 550053)	178.07	17.13
21 23 16 00-0106 EA Enclosure With Mechanical Control Unit, Kitchen Fire Suppression Systems (Pyro-Chem 551208)	1,172.43	112.04
21 23 16 00-0107 EA Enclosure For Secondary Cylinders, Kitchen Fire Suppression Systems (Pyro-Chem 550966)	715.84	68.34
21 23 16 00-0108 Fusible Links, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0109 EA 165 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551522)	23.12	2.26
21 23 16 00-0110 EA 212 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551523)	23.12	2.26
21 23 16 00-0111 EA 280 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551524)	23.68	2.26
21 23 16 00-0112 EA 360 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551525)	23.12	2.26
21 23 16 00-0113 EA 450 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551526)	23.12	2.26
21 23 16 00-0114 EA 500 Fahrenheit, Fusible Link, Kitchen Fire Suppression Systems (Pyro-Chem 551527)	25.17	2.26
21 23 16 00-0115 EA Fusible Link Kit With 10" Bracket, Kitchen Fire Suppression Systems (Pyro-Chem 550131)	40.04	3.80
21 23 16 00-0116 EA Fusible Link Kit With 8" Bracket, Kitchen Fire Suppression Systems (Pyro-Chem 550132)	51.97	5.03
21 23 16 00-0117 EA Fusible Link Hanger, Kitchen Fire Suppression Systems (Pyro-Chem 550876)	60.62	25.96
21 23 16 00-0118 EA 225 To 600 Fahrenheit, Electrical Thermal Detector, Kitchen Fire Suppression Systems (Pyro-Chem 13970-6)	498.55	57.77
21 23 16 00-0119 Gas Valves, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0120 EA 3/4" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550593)	420.42	22.16
21 23 16 00-0121 EA 1" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550594)	478.56	27.30
21 23 16 00-0122 EA 1-1/4" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550595)	515.77	34.47
21 23 16 00-0123 EA 1-1/2" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550596)	567.10	39.60
21 23 16 00-0124 EA 2" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 551049)	652.17	46.79
21 23 16 00-0125 EA 2-1/2" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550185)	1,525.26	68.44
21 23 16 00-0126 EA 3" Mechanical Gas Valve, Direct Cable Hookup, Kitchen Fire Suppression Systems (Pyro-Chem 550186)	1,626.63	79.21
21 23 16 00-0127 EA 3/4" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550358)	329.20	22.16
21 23 16 00-0128 EA 1" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550359)	562.93	27.30
21 23 16 00-0129 EA 1-1/4" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550360)	586.44	34.47
21 23 16 00-0130 EA 1-1/2" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550361)	667.41	39.60
21 23 16 00-0131 EA 2" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550362)	925.77	46.79
21 23 16 00-0132 EA 2-1/2" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550363)	1,794.27	68.44
21 23 16 00-0133 EA 3" Electrical Gas Valve, Kitchen Fire Suppression Systems (Pyro-Chem 17643)	1,891.12	79.21
21 23 16 00-0134 Nozzles, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0135 EA Nozzle, Kitchen Fire Suppression Systems (Pyro-Chem)	82.92	7.60
21 23 16 00-0136 EA Swivel Nozzle, Kitchen Fire Suppression Systems (Pyro-Chem)	117.95	9.64
21 23 16 00-0137 EA Stainless Steel Nozzle, Kitchen Fire Suppression Systems (Pyro-Chem)	459.84	9.64
21 23 16 00-0138 Actuating Cylinders/Cartridges, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0139 EA Carbon Dioxide Actuation Cartridge, Kitchen Fire Suppression Systems (Pyro-Chem 551059)	30.59	2.97
21 23 16 00-0140 EA PAC-10, Pneumatic Actuating Cylinder, Kitchen Fire Suppression Systems (Pyro-Chem 550104)	1,002.13	96.34
21 23 16 00-0141 EA PAC-200, Pneumatic Actuating Cylinder, Kitchen Fire Suppression Systems (Pyro-Chem 550690)	1,276.92	123.23
21 23 16 00-0142 Circuit Monitors, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0143 EA 24 Volt DC, System Circuit Monitor/Gas Valve Reset Relay, Kitchen Fire Suppression Systems (Pyro-Chem 550303)	655.08	63.10
21 23 16 00-0144 EA 120 Volt AC, System Circuit Monitor/Gas Valve Reset Relay, Kitchen Fire Suppression Systems (Pyro-Chem 550302)	790.44	76.03
21 23 16 00-0145 Control Heads, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0146 EA Mechanical Control Head, No Local Action, Kitchen Fire Suppression Systems (Pyro-Chem 551203)	722.76	69.57
21 23 16 00-0147 EA Mechanical Control Head With Local Action, Kitchen Fire Suppression Systems (Pyro-Chem 551200)	754.31	72.74
21 23 16 00-0148 EA 24 Volt DC, Electrical Control Head With Local Actuation, Kitchen Fire Suppression Systems (Pyro-Chem 551201)	982.61	94.60
21 23 16 00-0149 EA 120 Volt AC Electrical Control Head With Local Actuation, Kitchen Fire Suppression Systems (Pyro-Chem 551202)	1,127.17	108.76
21 23 16 00-0150 EA Control Head Mounting Bracket, Kitchen Fire Suppression Systems (Pyro-Chem 550853)	91.55	8.83
21 23 16 00-0151 Corner Pulleys/Tees, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0152 EA Set Screw Type, Corner Pulley, Kitchen Fire Suppression Systems (Pyro-Chem 415670)	23.02	1.44
21 23 16 00-0153 EA Compression Type, Corner Pulley, Kitchen Fire Suppression Systems (Pyro-Chem 423250)	23.67	1.84
21 23 16 00-0154 EA Tee Pulley, Kitchen Fire Suppression Systems (Pyro-Chem 550166)	73.41	7.08
21 23 16 00-0155 EA Removal And Replacement Of Screw For Corner Pulley, Kitchen Fire Suppression Systems (Pyro-Chem 550272)	0.92	

21 Fire Suppression**21 20 Fire-Extinguishing Systems****21 23 Wet-Chemical Fire-Extinguishing Systems**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT UNIT COST
DEMOLITION UNIT COST

21 23 16 00-0156		Switches, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0157	EA	SPDT Switch, Kitchen Fire Suppression Systems (Pyro-Chem 550227).....	79.84	7.70
21 23 16 00-0158	EA	DPDT Switch, Kitchen Fire Suppression Systems (Pyro-Chem 550237).....	159.92	15.29
21 23 16 00-0159	EA	Four Pole Double Throw Switch, Kitchen Fire Suppression Systems (Pyro-Chem 550978).....	338.44	32.43
21 23 16 00-0160		Wire Rope/Accessories, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0161	LF	1/16" Diameter Stainless Steel Wire Rope, Kitchen Fire Suppression Systems (Pyro-Chem 15821).....	1.62	0.31
21 23 16 00-0162	EA	Crimps For 1/16" Diameter Stainless Steel Wire Rope, Kitchen Fire Suppression Systems (Pyro-Chem 550122).....	0.94	0.31
21 23 16 00-0163	EA	High Temperature Stainless Steel Crimps, Kitchen Fire Suppression Systems (Pyro-Chem 551551).....	3.98	0.41
21 23 16 00-0164	EA	"S" Hooks, Kitchen Fire Suppression Systems (Pyro-Chem 550121).....	0.66	
21 23 16 00-0165		Replacement Parts, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0166	EA	Wet Valve Rebuilding Kit, Kitchen Fire Suppression Systems (Pyro-Chem 550698).....	75.84	7.39
21 23 16 00-0167	EA	Wet Valve Cap With Schrader Valve, Kitchen Fire Suppression Systems (Pyro-Chem 550831).....	79.18	7.70
21 23 16 00-0168	EA	Wet Spring, Kitchen Fire Suppression Systems (Pyro-Chem 550705).....	9.28	0.93
21 23 16 00-0169	EA	225 psi, Wet Gauge, Kitchen Fire Suppression Systems (Pyro-Chem 551236).....	108.98	10.06
21 23 16 00-0170	EA	Wet Valve O-ring, Kitchen Fire Suppression Systems (Pyro-Chem 550716).....	15.26	1.44
21 23 16 00-0171	EA	Wet Piston, Kitchen Fire Suppression Systems (Pyro-Chem 550707).....	21.24	2.06
21 23 16 00-0172	EA	Wet Piston O-Ring, Kitchen Fire Suppression Systems (Pyro-Chem 550715).....	9.28	0.93
21 23 16 00-0173	EA	Wet Nozzle Cap, Kitchen Fire Suppression Systems (Pyro-Chem 551528).....	13.07	1.23
21 23 16 00-0174	EA	Wet Nozzle Strainer, Kitchen Fire Suppression Systems (Pyro-Chem 551529).....	12.78	1.23
21 23 16 00-0175	EA	Wet Nozzle Cap O-Ring, Kitchen Fire Suppression Systems (Pyro-Chem 551530).....	3.65	0.31
21 23 16 00-0176	EA	Removal And Replacement Of Teflon Washer For Control Head Actuator, Kitchen Fire Suppression Systems (Pyro-Chem 550257).....	6.19	
21 23 16 00-0177	EA	O-Ring Lubrication, Kitchen Fire Suppression Systems (Pyro-Chem 550063).....	118.28	
21 23 16 00-0178	EA	3.0 Gallon Empty Test Tank, Kitchen Fire Suppression Systems (Pyro-Chem 551024).....	807.62	
21 23 16 00-0179	EA	4.6 Gallon Empty Test Tank, Kitchen Fire Suppression Systems (Pyro-Chem 550902).....	1,047.54	
21 23 16 00-0180	EA	6.0 Gallon Empty Test Tank, Kitchen Fire Suppression Systems (Pyro-Chem 550901).....	1,209.41	
21 23 16 00-0181		Accessories, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0182	EA	3/8" Quickseal Adapter, Kitchen Fire Suppression Systems (Pyro-Chem 550857).....	37.15	3.49
21 23 16 00-0183	EA	1/2" Quickseal Adapter, Kitchen Fire Suppression Systems (Pyro-Chem 550859).....	38.48	3.70
21 23 16 00-0184	EA	Wet Valve Tool, Kitchen Fire Suppression Systems (Pyro-Chem 550788).....	74.11	7.08
21 23 16 00-0185	EA	Recharge Adapter Kit, Kitchen Fire Suppression Systems (Pyro-Chem 551240).....	104.86	
21 23 16 00-0186	EA	3.0 Gallon Of Wet Chemical For Recharge, Kitchen Fire Suppression Systems (Pyro-Chem 551188).....	225.41	
21 23 16 00-0187		Pull Stations/Accessories, Kitchen Fire Suppression Systems (21 23 16 00-0100)		
21 23 16 00-0188	EA	Mechanical, Remote Pull Station, Kitchen Fire Suppression Systems (Pyro-Chem 551074).....	149.70	14.47
21 23 16 00-0189	EA	Electric, Remote Pull Station, Kitchen Fire Suppression Systems (Pyro-Chem 551166).....	159.23	20.31
21 23 16 00-0190	EA	Trim Ring For Flush Mounting Remote Pull Station, Kitchen Fire Suppression Systems (Pyro-Chem 550088).....	40.04	3.80
21 23 16 00-0191	EA	Glass Rods For Pull Stations, Kitchen Fire Suppression Systems (Pyro-Chem 428661).....	5.23	1.33
21 23 16 00-0192		Asco Gas Valve Control Panels (21 23 16)		
21 23 16 00-0193	EA	Relay Control Panel For AC Solenoid Valves (Asco 108D90C).....	2,500.93	225.73
21 23 16 00-0194	EA	Relay Control Panel For DC Solenoid Valves (Asco 108D10C).....	2,586.01	225.73
21 23 16 00-0195	EA	Master Control Station For Relay Control Panel For DC Solenoid Valves (Asco 216C89).....	846.87	51.30
21 23 16 00-0196	EA	Emergency Stop Station For Relay Control Panel (Asco 173A19).....	791.29	51.30

21 24 Dry-Chemical Fire-Extinguishing Systems (21 20)**21 24 16 Dry-Chemical Fire-Extinguishing Equipment** (21 24)

21 24 16 00-0001		Amerex KP Restaurant Fire Suppression Systems (21 24 16)		
		Note: Amerex or equal.		
21 24 16 00-0002	EA	3.75 Gallon, Charged, Agent Cylinder Assembly With Discharge Valve.....	568.18	79.63
21 24 16 00-0003	EA	6 Gallon, Charged, Agent Cylinder Assembly With Discharge Valve.....	791.33	100.38
21 24 16 00-0004	EA	Recharge - KP Liquid Agent (3.75 Gallon).....	187.94	
21 24 16 00-0005	EA	Recharge - KP Liquid Agent (6 Gallon).....	330.38	
21 24 16 00-0006	EA	3.75 Gallon, Bracket Assembly Agent Cylinder With Distribution Hose Assembly And Distribution Outlet.....	131.56	16.71
21 24 16 00-0007	EA	6 Gallon, Bracket Assembly Agent Cylinder.....	76.64	9.69
21 24 16 00-0008	EA	6 Gallon, 3/4 NPT, Agent Cylinder Discharge Adapter Kit.....	33.24	
21 24 16 00-0009	EA	6 Gallon, Pneumatic Actuator, Agent Cylinder.....	131.56	16.71
21 24 16 00-0010	EA	MRM Actuator (Less N2 Cylinder And Enclosure).....	330.38	41.90
21 24 16 00-0011	EA	Painted Steel, MRM Enclosure.....	176.07	22.29
21 24 16 00-0012	EA	Stainless Steel, MRM Enclosure.....	214.46	22.29
21 24 16 00-0013	EA	Stainless Steel, Single Cylinder System Cabinet.....	524.26	66.51
21 24 16 00-0014	EA	N2 - 1/4" x 16" Actuation Hose.....	39.56	5.02
21 24 16 00-0015	EA	10 CU. Inch, Nitrogen Cylinder.....	176.08	22.29
		Note: Use For 1-10 Agent Cylinders		
21 24 16 00-0016	EA	Vent Check.....	31.66	4.01
21 24 16 00-0017	EA	Detector.....	23.74	3.01
		Note: Includes bracket, linkage and conduit fittings.		



Fire Suppression			21
Fire-Extinguishing Systems			21 20
Dry-Chemical Fire-Extinguishing Systems			21 24

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
21 24 16 00-0018	EA		280 To 450 Degree F, Fusible Link.....	8.90	1.12
21 24 16 00-0019	EA		Test Link.....	2.92	
21 24 16 00-0020	EA		Corner Pulley.....	12.26	1.56
21 24 16 00-0021	EA		1/16", 500 Foot Spool, Cable.....	197.82	25.07
21 24 16 00-0022	EA		Pulley Tee.....	89.02	11.25
21 24 16 00-0023	EA		Manual Pull Station (Standard).....	79.12	10.03
21 24 16 00-0024	EA		Manual Pull Station, Adapter Kit (Recess Standard Pull Station).....	37.12	4.68
21 24 16 00-0025	EA		Manual Pull Station (Oversized).....	88.23	11.14
21 24 16 00-0026	EA		Conduit Offset.....	17.60	2.23
21 24 16 00-0027	EA		3/8" Pipe Thread, Seal (Quick-Seal).....	24.26	3.12
21 24 16 00-0028	EA		1/2" Pipe Thread, Seal (Quick-Seal).....	19.79	2.56
21 24 16 00-0029	EA		3/8" Pipe Compression Seal.....	33.04	4.23
21 24 16 00-0030	EA		1/2" Pipe Compression Seal.....	33.04	4.23
21 24 16 00-0031	EA		Cap, Nozzle Blow-Off (Standard).....	9.46	2.90
21 24 16 00-0032	EA		Cap, Nozzle Blow-Off (High Temperature).....	22.01	2.90
21 24 16 00-0033	EA		2 Flow Points, Fryer/Griddle Nozzle.....	39.56	5.02
21 24 16 00-0034	EA		1 Flow Point Each, Appliance, Plenum Nozzle.....	39.56	5.02
21 24 16 00-0035	EA		Nozzle - Solid Fuel Charbroiler - 1 To 1-1/2 Flow Points Each.....	39.56	5.02
21 24 16 00-0036	EA		1/2 Flow Points Each, Upright Charbroiler Nozzle.....	39.56	5.02
21 24 16 00-0037	EA		2 Flow Points Each, Duct (Only) Nozzle.....	39.56	5.02
21 24 16 00-0038	EA		2 Flow Points Each, Four Burner Range Nozzle.....	56.89	7.24
21 24 16 00-0039	EA		3/4" Or 1" Mechanical Gas Valve.....	314.50	29.53
21 24 16 00-0040	EA		1-1/4" Or 1-1/2" Mechanical Gas Valve.....	370.78	42.89
21 24 16 00-0041	EA		2" Mechanical Gas Valve.....	461.68	50.70
21 24 16 00-0042	EA		Manual Reset Relay (Required With Every Electric Gas Valve).....	498.52	63.18
21 24 16 00-0043	EA		SPDT Microswitch With 18" Leads.....	26.23	3.34
21 24 16 00-0044	EA		Kit Gas Valve Actuator For Use With ASCO Mechanical Gas Valve.....	42.34	5.35
21 24 16 00-0045	EA		Gas Valve Trip Assembly.....	89.02	11.25

21 24 16 00-0046

Range Guard Fire Suppression Systems (21 24 16)

Note: Range Guard or equal.

21 24 16 00-0047	EA		1-1/4 Gallon Charged Cylinder With Valve.....	603.29	86.08
21 24 16 00-0048	EA		2-1/2 Gallon Charged Cylinder With Valve.....	753.07	107.43
21 24 16 00-0049	EA		4 Gallon Charged Cylinder With Valve.....	929.71	132.67
21 24 16 00-0050	EA		6 Gallon Charged Cylinder With Valve.....	1,104.29	157.50
21 24 16 00-0051	EA		Vent Plug.....	25.34	3.59
21 24 16 00-0052	EA		Discharge Adapter Kit.....	32.64	
21 24 16 00-0053	EA		1-1/4 Gallon Wall Bracket.....	67.15	9.54
21 24 16 00-0054	EA		2-1/2 Gallon Wall Bracket.....	71.07	10.16
21 24 16 00-0055	EA		4 Gallon Wall Bracket.....	134.22	19.19
21 24 16 00-0056	EA		6 Gallon Wall Bracket.....	148.76	21.24
21 24 16 00-0057	EA		Mechanical Control Head, No Microswitch.....	524.78	74.90
21 24 16 00-0058	EA		Mechanical Control Head, 1 Microswitch.....	547.50	78.08
21 24 16 00-0059	EA		Mechanical Control Head, 2 Microswitches.....	628.08	89.57
21 24 16 00-0060	EA		Tandem Control Head.....	477.25	68.13
21 24 16 00-0061	EA		Electric Control Head, 120 Volt AC / 24 Volt DC.....	807.82	115.23
21 24 16 00-0062	EA		Mechanical Control Box.....	359.49	51.30
21 24 16 00-0063	EA		Tandem Control Box.....	359.49	51.30
21 24 16 00-0064	EA		Mechanical Control Box Adapter.....	105.37	15.08
21 24 16 00-0065	EA		A+ Control head With 1 Pressure Operated Actuator.....	316.65	45.14
21 24 16 00-0066	EA		Pressure Operated Actuator.....	130.16	18.57
21 24 16 00-0067	EA		BMCS-1 Nitrogen Cylinder.....	210.74	30.06
21 24 16 00-0068	EA		BMCS-1 Actuator Assembly.....	214.87	30.68
21 24 16 00-0069	EA		BMCS-1 Mounting Bracket.....	52.68	7.49
21 24 16 00-0070	EA		BMCS-7 Nitrogen Cylinder.....	608.06	86.70
21 24 16 00-0071	EA		BMCS-7 Mounting Bracket.....	130.16	18.57
21 24 16 00-0072	EA		BMCS-7 Discharge Adapter Kit.....	130.16	18.57
21 24 16 00-0073	EA		Check Valve.....	109.73	22.06
21 24 16 00-0074	EA		Vent Check For Use With BMCS Systems.....	58.88	8.41
21 24 16 00-0075	EA		Check Valve, (Schrader Flare Fitting) For Pressure Operated Actuator.....	25.62	3.66
21 24 16 00-0076	EA		Removal And Replacement Of Receiver Gasket For BMCS-Actuator Assembly.....	6.74	
21 24 16 00-0077	EA		Pneumatic Control Head For Slave Cylinders.....	134.29	19.19
21 24 16 00-0078	EA		Nozzles; ADP, F, R And GRW.....	61.56	8.83
21 24 16 00-0079	EA		Nozzles; DM And LPF.....	68.59	9.74
21 24 16 00-0080	EA		Swivel Adapter.....	43.38	6.16
21 24 16 00-0081	EA		Corner Pulley.....	18.59	2.67
21 24 16 00-0082	LF		1/16" Stainless Steel Cable.....	0.83	0.31
21 24 16 00-0083	EA		Cable Crimp Sleeve.....	1.01	0.31
21 24 16 00-0084	EA		"S" Hook.....	0.78	0.20
21 24 16 00-0085	EA		Electrical Metallic Tubing (EMT) Adapter, 1/2" Electrical Metallic Tubing (EMT) x 3/8" NPT.....	64.02	9.13
21 24 16 00-0086	EA		Cable Clamp.....	5.71	0.82
21 24 16 00-0087	EA		Nico Sleeves - 1/16" Cable.....	0.79	0.20
21 24 16 00-0088	EA		3/8" Cable Anchor.....	67.66	9.64
21 24 16 00-0089	EA		1/2" Cable Anchor.....	67.66	9.64
21 24 16 00-0090	EA		Mechanical Remote Manual Release (Pull Cable).....	109.44	15.60
21 24 16 00-0091	EA		Tee Pulley, Use For Mechanical Pull And Gas Valve.....	116.80	16.63
21 24 16 00-0092	EA		Surface Remote Manual Release, End-of-line.....	136.83	19.50
21 24 16 00-0093	EA		Surface Remote Manual Release, In line Conservation Kit.....	42.87	6.16
21 24 16 00-0094	EA		Surface Remote Manual Release, In line And End Of Line.....	179.65	25.54
21 24 16 00-0095	EA		Recessed Remote Manual Release, End-of-line.....	136.83	19.50

21 Fire Suppression**21 20 Fire-Extinguishing Systems****21 24 Dry-Chemical Fire-Extinguishing Systems**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT
UNIT COST
DEMOLITION
UNIT COST

21 24 16 00-0096	EA	Recessed Remote Manual Release, In Line Kit.....	163.12	23.29
21 24 16 00-0097	EA	Pulley Tee, Remote In Line Only	29.32	4.20
21 24 16 00-0098	EA	Fusible Link Housing Kit With 1 - Bracket, 2 - 1/2" Electrical Metallic Tubing (EMT) Connector, 1 - "S" Hook, 8 - Cable Crimp Sleeve.....	32.55	4.62
21 24 16 00-0099	EA	Fusible Link 165F To 360F	10.66	1.54
21 24 16 00-0100	EA	Fusible Link 500F	16.79	1.54
21 24 16 00-0101	EA	Standard Detector With 1 - 360F link, 2 - "S" Hooks, 2 - Crimp Sleeves	32.55	4.62
21 24 16 00-0102	EA	Standard Detector Kit With 1 - Large Bracket, 2 - "S" Hooks, 2 - Cable Crimp Sleeve	24.06	4.62
21 24 16 00-0103	EA	Quartzoid Link 400 F.....	175.52	25.04
21 24 16 00-0104	EA	Quartzoid Link 500 F.....	175.52	25.04
21 24 16 00-0105	EA	SPDT Micro Switch For Use With A Plus Control Box	62.91	8.93
21 24 16 00-0106	EA	DPDT Micro Switch For Use With A Plus Control Box	109.44	15.60
21 24 16 00-0107	EA	SPDT Micro Switch For Use With A Mechanical Control Box.....	65.04	9.23
21 24 16 00-0108	EA	DPDT Micro Switch For Use With A Mechanical Control Box.....	112.73	16.11
21 24 16 00-0109	EA	SPDT Micro Switch For Use With PRCB	82.59	11.80
21 24 16 00-0110	EA	DPDT Micro Switch For Use With PRCB	119.15	16.93
21 24 16 00-0111	EA	Pressure Switch, SPDT (Fire Dept. Tie In)	348.98	49.76
21 24 16 00-0112	EA	Circuit Monitor 12 Or 24 Volt DC	156.93	22.37
21 24 16 00-0113	EA	Circuit Monitor 120 Volt AC.....	156.93	22.37
21 24 16 00-0114	EA	Electric Manual Pull Station	114.60	16.31
21 24 16 00-0115	EA	6", 24 Volt DC, Motor Bell	64.01	9.13
21 24 16 00-0116	EA	10", 115 Volt AC Motor Bell	90.86	12.93
21 24 16 00-0117	EA	Fuse, 1.2 For ECH.....	7.36	1.03
21 24 16 00-0118	EA	Indicator Lamp 12 Or 24 Volt DC.....	32.55	4.62
21 24 16 00-0119	EA	Indicator Lamp 120 Volt AC	32.55	4.62
21 24 16 00-0120	EA	B-10 Manual Station Dual Action, SPDT.....	119.76	17.03
21 24 16 00-0121	EA	B-11 Manual Station Dual Action, DPDT	132.16	18.88
21 24 16 00-0122	EA	Break Rods For B10/B11 Manual Pull Station	3.56	1.33
21 24 16 00-0123	EA	Spare Key For B10/B11 Manual Stations	16.52	2.36
21 24 16 00-0124	EA	MT-24-LSM-VAR Multitone Signal With 15/75cd Strobe, 24 Volt, Flush Grill	177.58	25.34
21 24 16 00-0125	EA	Suppression Abort Station	187.91	26.78
21 24 16 00-0126	EA	Suppression Abort Station With Surface Mount Back Box	218.88	31.19
21 24 16 00-0127	EA	Surface Mount Back Box	72.28	10.26
21 24 16 00-0128	EA	Single Hazard Control Unit, 120 Volt AC IP	1,342.19	191.15
21 24 16 00-0129	EA	Single Hazard Control Unit, 240 Volt AC IP	1,342.19	191.15
21 24 16 00-0130	EA	1 Lead Acid Battery; 24 Volt DC, 1.2 A.H.	111.51	15.90
21 24 16 00-0131	EA	Accessory Kit - End-of-line Resistors (10K Ohms, 1/2 W)	4.30	0.72
21 24 16 00-0132	EA	Spare Scorpio Circuit Board	970.44	
21 24 16 00-0133	EA	Extra Scorpio Key	16.52	
21 24 16 00-0134	EA	Extra Scorpio Manual.....	10.32	
21 24 16 00-0135	EA	Compression Seal Adapter 3/8" Pipe.....	28.08	4.00
21 24 16 00-0136	EA	Compression Seal Adapter 1/2" Tubing/ 1/4" Pipe	30.49	4.31
21 24 16 00-0137	EA	Compression Seal Adapter 5/8" Tubing/ 3/8" Pipe	36.68	5.23
21 24 16 00-0138	EA	Compression Seal Adapter 3/4" Tubing/ 1/2" Pipe	39.23	5.54
21 24 16 00-0139	EA	Quik Seal Adapter 3/8" NPT Female	30.49	4.31
21 24 16 00-0140	EA	Quik Seal Adapter 1/2" NPT Female	30.49	4.31
21 24 16 00-0141	EA	Quik Seal Adapter 3/4" NPT Female	52.16	7.49
21 24 16 00-0142	EA	Quik Seal Adapter 1" NPT Female	69.17	9.85
21 24 16 00-0143	EA	Quik Patch (Up To 1-1/8" Diameter)	30.49	4.31
21 24 16 00-0144	EA	1-1/4 Gallon Karbaloy Charge	67.86	
21 24 16 00-0145	EA	2-1/2 Gallon Karbaloy Charge	116.66	
21 24 16 00-0146	EA	4 Gallon Karbaloy Charge.....	176.33	
21 24 16 00-0147	EA	6 Gallon Karbaloy Charge.....	258.02	
21 24 16 00-0148	EA	Inlet Flushing Adapter.....	50.59	7.18
21 24 16 00-0149	EA	1/2" Flushing Adapter (Outlet).....	50.59	7.18
21 24 16 00-0150	EA	1/8" Flushing Adapter (Outlet).....	50.59	7.18
21 24 16 00-0151	EA	1/4" Flushing Adapter (Outlet).....	50.59	7.18
21 24 16 00-0152	EA	3/8" Flushing Adapter (Outlet).....	50.59	7.18
21 24 16 00-0153	EA	Recharge Adapter (Old Style Cylinder Valve Assembly Only).....	70.20	
21 24 16 00-0154	EA	Instruction Label (In Case Of Fire) - MCB	5.63	
21 24 16 00-0155	EA	Caution Sign (Turn On Fan).....	6.74	
21 24 16 00-0156	EA	Inspection Label (Authorized installers only).....	4.75	
21 24 16 00-0157	EA	Label, Warning, A+ Control Box.....	3.42	
21 24 16 00-0158	EA	Wet Chemical System Kits, RG-1.25G Kit; #23315	887.86	126.51
21 24 16 00-0159	EA	Wet Chemical System Kits, RG-2.5G Kit; #23316	1,036.54	147.65
21 24 16 00-0160	EA	Wet Chemical System Kits, RG-4GS Kit; #23317	1,290.54	183.87
21 24 16 00-0161	EA	Wet Chemical System Kits, RG-4GT Kit; #23318	1,290.54	183.87
21 24 16 00-0162	EA	Wet Chemical System Kits, RG-6G Kit; #23319	1,622.96	231.17
21 24 16 00-0163	EA	Wet Chemical System Kits, RG Mechanical Control HD (MCH) Kit; #23320	769.14	109.58
21 24 16 00-0164	EA	Wet Chemical System Kits, RG Mechanical Control Box (MCB) Kit; #23321	722.68	102.91
21 24 16 00-0165	EA	Wet Chemical System Kits, A Plus Control Box Kit; #23322	584.34	83.21
21 24 16 00-0166	EA	Wet Chemical System Kits, Valve Rebuild Kit; #23210.....	1,011.74	144.16
21 24 16 00-0167	EA	Wet Chemical System Kits, BMCS-1 Package; #23208	927.08	132.05

21 30 Fire Pumps (21)**21 31 Centrifugal Fire Pumps** (21 30)**21 31 13 Electric-Drive, Centrifugal Fire Pumps** (21 31)



Fire Suppression			21	21
Fire Pumps			21 30	
Centrifugal Fire Pumps			21 31	

MINOR			TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST
21 31 13 00-0001	Electric-Drive Fire Pumps (21 31 13)			
Note: Includes fire pump, motor, motor starter, alarm panel, automatic transfer switch, and controller.				
21 31 13 00-0002	EA	20 HP Electric Fire Pump	60,062.04	2,036.52
		For Duplex Pumping System, Add	58,025.53	
21 31 13 00-0003	EA	30 HP Electric Fire Pump	70,143.69	2,291.08
		For Duplex Pumping System, Add	68,022.32	
21 31 13 00-0004	EA	40 HP Electric Fire Pump	95,796.76	2,545.65
		For Duplex Pumping System, Add	93,439.68	
21 31 13 00-0005	EA	50 HP Electric Fire Pump	118,470.61	2,978.41
		For Duplex Pumping System, Add	115,492.21	
21 31 13 00-0006	EA	75 HP Electric Fire Pump	132,272.71	3,249.18
		For Duplex Pumping System, Add	129,023.54	
21 31 16	Diesel-Drive, Centrifugal Fire Pumps (21 31)			
21 31 16 00-0001	Diesel-Drive Fire Pumps (21 31 16)			
Note: Pumps shall be stand alone units meeting NFPA-20 specs. Includes fire pump, motor, motor starter, alarm panel, and controller.				
21 31 16 00-0002	EA	30 HP Diesel Driven Fire Pump, NFPA-20 Specific.....	88,877.10	2,436.88
21 31 16 00-0003	EA	40 HP Diesel Driven Fire Pump, NFPA-20 Specific.....	100,555.25	2,707.65
21 31 16 00-0004	EA	50 HP Diesel Driven Fire Pump, NFPA-20 Specific.....	105,612.23	2,978.41
21 31 16 00-0005	EA	75 HP Diesel Driven Fire Pump, NFPA-20 Specific.....	120,229.40	3,249.18
21 31 16 00-0006	EA	150 HP Diesel Driven Fire Pump, NFPA-20 Specific.....	127,505.81	3,790.71
21 31 16 00-0007	EA	175 HP Diesel Driven Fire Pump, NFPA-20 Specific.....	136,991.17	4,873.77
21 31 16 00-0008	EA	200 HP Diesel Driven Fire Pump, NFPA-20 Specific.....	148,659.10	5,415.29
21 31 16 00-0009	EA	250 HP Diesel Driven Fire Pump, NFPA-20 Specific.....	169,993.98	6,173.43
21 31 16 00-0010	EA	300 HP Diesel Driven Fire Pump, NFPA-20 Specific.....	203,849.40	6,660.81
21 31 16 00-0011	EA	350 HP Diesel Driven Fire Pump , NFPA-20 Specific.....	239,246.54	7,581.40
21 31 16 00-0012	EA	400 HP Diesel Driven Fire Pump , NFPA-20 Specific.....	284,245.77	8,122.93
21 31 16 00-0013	EA	500 HP Diesel Driven Fire Pump , NFPA-20 Specific.....	320,236.38	8,664.46
21 34	Fire Pump Accessories (21 30)			
21 34 13	Pressure Maintenance Pumps (21 34)			
21 34 13 00-0001	Jockey Pumps (21 34 13)			
Note: Includes pump and controller.				
21 34 13 00-0002	EA	Up To 3 HP, 1" Pipe Connection, Jockey Pump And Controller	6,153.55	541.53

END OF SECTION 21

21	21	Fire Suppression
	21 30	Fire Pumps
	21 34	Fire Pump Accessories



MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST

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	Plumbing	22	
	Operation and Maintenance of Plumbing	22 01	22
	Operation and Maintenance of Plumbing Piping and Pumps	22 01 10	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

22 Plumbing

Note: Where required, mechanical equipment excludes electrical connection unless title states otherwise.

22 01 Operation and Maintenance of Plumbing⁽²²⁾

22 01 10 Operation and Maintenance of Plumbing Piping and Pumps^(22 01)

See CSI section 23 01 20 00-0000 for purging of pipes and shutdown.

22 01 10 61 Plumbing Piping Repairs^(22 01 10)

22 01 10 61-0001 Pipe Repair Clamps^(22 01 10 61)

22 01 10 61-0002	EA	1/2" Diameter x 3" Stainless Steel Pipe Repair Clamp, Single Bolt	44.40
		Note: Includes neoprene gasket	
22 01 10 61-0003	EA	3/4" Diameter x 3" Stainless Steel Pipe Repair Clamp, Single Bolt	46.09
		Note: Includes neoprene gasket	
22 01 10 61-0004	EA	1" Diameter x 3" Stainless Steel Pipe Repair Clamp, Single Bolt	50.66
		Note: Includes neoprene gasket	
22 01 10 61-0005	EA	1-1/4" Diameter x 3" Stainless Steel Pipe Repair Clamp, Single Bolt	53.98
		Note: Includes neoprene gasket	
22 01 10 61-0006	EA	1-1/2" Diameter x 3" Stainless Steel Pipe Repair Clamp, Single Bolt	58.36
		Note: Includes neoprene gasket	
22 01 10 61-0007	EA	2" Diameter x 3" Stainless Steel Pipe Repair Clamp, Single Bolt	74.31
		Note: Includes neoprene gasket	
22 01 10 61-0008	EA	2-1/2" Diameter x 3" Stainless Steel Pipe Repair Clamp, Single Bolt	93.94
		Note: Includes neoprene gasket	
22 01 10 61-0009	EA	3" Diameter x 3" Stainless Steel Pipe Repair Clamp, Single Bolt	108.69
		Note: Includes neoprene gasket	
22 01 10 61-0010	EA	4" Diameter x 3" Stainless Steel Pipe Repair Clamp, Single Bolt	124.46
		Note: Includes neoprene gasket	
22 01 10 61-0011	EA	1/2" Diameter x 6" Stainless Steel Pipe Repair Clamp, Double Bolt	70.52
		Note: Includes neoprene gasket	
22 01 10 61-0012	EA	3/4" Diameter x 6" Stainless Steel Pipe Repair Clamp, Double Bolt	74.19
		Note: Includes neoprene gasket	
22 01 10 61-0013	EA	1" Diameter x 6" Stainless Steel Pipe Repair Clamp, Double Bolt	82.13
		Note: Includes neoprene gasket	
22 01 10 61-0014	EA	1-1/4" Diameter x 6" Stainless Steel Pipe Repair Clamp, Double Bolt	90.25
		Note: Includes neoprene gasket	
22 01 10 61-0015	EA	1-1/2" Diameter x 6" Stainless Steel Pipe Repair Clamp, Double Bolt	99.40
		Note: Includes neoprene gasket	
22 01 10 61-0016	EA	2" Diameter x 6" Stainless Steel Pipe Repair Clamp, Double Bolt	128.30
		Note: Includes neoprene gasket	
22 01 10 61-0017	EA	2-1/2" Diameter x 6" Stainless Steel Pipe Repair Clamp, Double Bolt	154.67
		Note: Includes neoprene gasket	
22 01 10 61-0018	EA	3" Diameter x 6" Stainless Steel Pipe Repair Clamp, Double Bolt	175.47
		Note: Includes neoprene gasket	
22 01 10 61-0019	EA	4" Diameter x 6" Stainless Steel Pipe Repair Clamp, Double Bolt	198.74
		Note: Includes neoprene gasket	
22 01 10 61-0020	EA	1/2" Diameter x 9" Stainless Steel Pipe Repair Clamp, Three Bolt	100.60
		Note: Includes Buna rubber gasket	
22 01 10 61-0021	EA	3/4" Diameter x 9" Stainless Steel Pipe Repair Clamp, Three Bolt	104.46
		Note: Includes Buna rubber gasket	
22 01 10 61-0022	EA	1" Diameter x 9" Stainless Steel Pipe Repair Clamp, Three Bolt	115.41
		Note: Includes Buna rubber gasket	
22 01 10 61-0023	EA	1-1/4" Diameter x 9" Stainless Steel Pipe Repair Clamp, Three Bolt	126.57
		Note: Includes Buna rubber gasket	
22 01 10 61-0024	EA	1-1/2" Diameter x 9" Stainless Steel Pipe Repair Clamp, Three Bolt	142.89
		Note: Includes Buna rubber gasket	
22 01 10 61-0025	EA	2" Diameter x 9" Stainless Steel Pipe Repair Clamp, Three Bolt	174.33
		Note: Includes Buna rubber gasket	
22 01 10 61-0026	EA	2-1/2" Diameter x 9" Stainless Steel Pipe Repair Clamp, Three Bolt	203.29
		Note: Includes Buna rubber gasket	
22 01 10 61-0027	EA	3" Diameter x 9" Stainless Steel Pipe Repair Clamp, Three Bolt	244.59
		Note: Includes Buna rubber gasket	
22 01 10 61-0028	EA	4" Diameter x 9" Stainless Steel Pipe Repair Clamp, Three Bolt	301.92
		Note: Includes Buna rubber gasket	
22 01 10 61-0029	EA	5" Diameter x 9" Stainless Steel Pipe Repair Clamp, Three Bolt	309.32
		Note: Includes Buna rubber gasket	
22 01 10 61-0030	EA	6" Diameter x 9" Stainless Steel Pipe Repair Clamp, Three Bolt	331.67
		Note: Includes Buna rubber gasket	

22 01 40 Operation and Maintenance of Plumbing Fixtures^(22 01)

22 01 40 81 Plumbing Fixtures Replacement^(22 01 40)

22 01 40 81-0001 Removal And Replacement Of Fixture And/or Trim^(22 01 40 81)

Note: Includes removal of existing item(s) and installation of new item(s).

22 01 40 81-0002	EA	Removal And Replacement Of 3/8" To 1/2" Compression Shut-off Valve With 15" Polybutylene Supply Tube	58.05
22 01 40 81-0003	EA	Removal And Replacement Of 3/8" Compression x 1/2" FIP, Braided Stainless Steel, Supply Lines To Sink/Lavatory	22.47
22 01 40 81-0004	EA	Removal And Replacement Of Chrome Supply Lines To Sink/Lavatory, Pair	28.29

22 Plumbing**22 01 Operation and Maintenance of Plumbing****22 01 40 Operation and Maintenance of Plumbing Fixtures**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 01 40 81-0005	EA	Removal And Replacement Of Single Bowl Sink/Lavatory Drain Line	39.43	
22 01 40 81-0006	EA	Removal And Replacement Of Double Bowl Sink/Lavatory Drain Line	61.33	
22 01 40 81-0007	EA	Removal And Replacement Of Shower Head, Polished Chrome	40.32	
22 01 40 81-0008	EA	Removal And Replacement Of Shower Arm	42.16	
22 01 40 81-0009	EA	Removal And Replacement Of Shower Head	51.00	
22 01 40 81-0010	EA	Removal And Replacement Of Shower Knob	38.94	
22 01 40 81-0011	EA	Removal And Replacement Of Shower and Tub Control Trim	114.91	
Note: Excludes balancing valve.				
22 01 40 81-0012	EA	Removal And Replacement Of Sink Basket Strainer	32.42	
22 01 40 81-0013	EA	Removal And Replacement Of 1-1/2" Sink Drain Without Stopper	17.02	
22 01 40 81-0014	EA	Removal And Replacement Of 4-1/2" Sink Drain Without Stopper	17.92	
22 01 40 81-0015	EA	Removal And Replacement Of 1-1/2" Sink Drain With Stopper	17.02	
22 01 40 81-0016	EA	Removal And Replacement Of 1" Sink Rubber Stopper	9.01	
22 01 40 81-0017	EA	Removal And Replacement Of Sink Tailpiece Extension, 1-1/2" x 8"	26.05	
22 01 40 81-0018	EA	Removal And Replacement Of Sink Trap, Adjustable, 1-1/2"	44.41	
22 01 40 81-0019	EA	Removal And Replacement Of Lavatory Pop-Up Rod	33.02	
22 01 40 81-0020	EA	Removal And Replacement Of Lavatory Pop-Up Drain Stopper	31.74	
22 01 40 81-0021	EA	Removal And Replacement Of Faucet Handle	36.13	
22 01 40 81-0022	EA	Removal And Replacement Of Faucet O-Ring	26.44	
22 01 40 81-0023	EA	Removal And Replacement Of 1-1/2" Faucet Hole Cover	20.23	
22 01 40 81-0024	EA	Removal And Replacement Of Toilet Ballcock	37.31	
22 01 40 81-0025	EA	Removal And Replacement Of Toilet Bowl Ring, Flat Wax	7.12	
Note: Excludes removal of toilet.				
22 01 40 81-0026	EA	Removal And Replacement Of Toilet Tank	149.10	
22 01 40 81-0027	EA	Removal And Replacement Of 10" Toilet Bowl	186.01	
22 01 40 81-0028	EA	Removal And Replacement Of 10", Low-Flush Watersaver, Toilet Bowl	200.42	
22 01 40 81-0029	EA	Removal And Replacement Of 12" Toilet Bowl	214.33	
22 01 40 81-0030	EA	Removal And Replacement Of 18", Elongated, Toilet Bowl	190.86	
22 01 40 81-0031	EA	Removal And Replacement Of Toilet Closet Bolt, 5/16" x 3" With Nuts And Washers	22.87	
22 01 40 81-0032	EA	Removal And Replacement Of Toilet Flapper With Chain	17.19	
22 01 40 81-0033	EA	Removal And Replacement Of Toilet Flush Tank Lever	18.44	
22 01 40 81-0034	EA	Removal And Replacement Of Elongated Toilet Seat With Lid	99.14	
22 01 40 81-0035	EA	Removal And Replacement Of Elongated Toilet Seat Without Lid	108.80	
22 01 40 81-0036	EA	Removal And Replacement Of Handicap Toilet Seat, Complete With Rails	145.62	
22 01 40 81-0037	EA	Removal And Replacement Of Diverter Tub Spout	63.27	
22 01 40 81-0038	EA	Removal And Replacement Of Tub Spout	43.61	
22 01 40 81-0039	EA	Removal And Replacement Of 2" Tub Stopper	10.44	
22 01 40 81-0040	EA	Removal And Replacement Of Tub Waste/Overflow	72.40	
22 01 40 81-0041	EA	Removal And Replacement Of Tub Stem Bonnet Assembly	36.87	
22 01 40 81-0042	EA	Removal And Replacement Of Faucet Bonnet	40.80	
22 01 40 81-0043	EA	Removal And Replacement Of Faucet Diverter Stem	25.55	
22 01 40 81-0044	EA	Removal And Replacement Of Faucet Diverter Stem And Bonnet	33.97	
22 01 40 81-0045	EA	Removal And Replacement Of Faucet Spout	38.72	
22 01 40 81-0046	EA	Removal And Replacement Of Faucet Stem	28.40	
22 01 40 81-0047	EA	Removal And Replacement Of Plastic, Chrome Plated Drinking Fountain Bubbler Valve With Flexible Bubbler Guard	227.24	
22 01 40 81-0048	EA	Removal And Replacement Of Brass, Chrome Plated Drinking Fountain Bubbler Valve	287.48	
22 01 40 81-0049	EA	Removal And Replacement Of Stainless Steel (Lead Free) Drinking Fountain Pushbutton Bubbler Valve	171.86	

22 05 Common Work Results for Plumbing ⁽²²⁾**22 05 13 Common Motor Requirements for Plumbing Equipment** ^(22 05)

Note: New equipment includes motor, unless otherwise stated. For use when replacing existing motor. See CSI section 23 05 13 00-0000 for motor requirements.

22 05 16 Expansion Fittings and Loops for Plumbing Piping ^(22 05)

See CSI section 23 05 16 00-0000 for expansion fittings and loops.

22 05 17 Sleeves and Sleeve Seals for Plumbing Piping ^(22 05)

See CSI section 23 05 17 00-0000 for sleeves and sleeve seals.

22 05 19 Meters and Gages for Plumbing Piping ^(22 05)

See CSI section 23 05 19 00-0000 for gages, 33 19 00 00-0000 for water utility service metering.

22 05 23 General Duty Valves for Plumbing Piping ^(22 05)

See CSI section 23 05 23 00-0000 for additional valves.

22 05 23 00-0001 Gate Valves ^(22 05 23)**22 05 23 00-0002 Class 125 Braze Or Soldered Bronze Gate Valves** ^(22 05 23 00-0001)

Note: 125 psi steam, basic rating. 200 psi cold working pressure. (Milwaukee Valve 105)

22 05 23 00-0003	EA	1/4" Diameter, 125 LB Braze Or Soldered Bronze Gate Valve	92.59	11.14
For 150 LB Rating, Add				6.02
For 200 LB Rating, Add				9.02
For Work In Restricted Working Space, Add				9.73
22 05 23 00-0004	EA	3/8" Diameter, 125 LB Braze Or Soldered Bronze Gate Valve	94.30	11.14
For 150 LB Rating, Add				6.02
For 200 LB Rating, Add				9.02
For Work In Restricted Working Space, Add				10.25



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 05 23 00-0005	EA	1/2" Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	.....	96.45	11.14
		For 150 LB Rating, Add	.....	6.05	
		For 200 LB Rating, Add	.....	9.08	
		For Work In Restricted Working Space, Add	.....	10.79	
22 05 23 00-0006	EA	3/4" Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	.....	113.46	12.26
		For 150 LB Rating, Add	.....	6.50	
		For 200 LB Rating, Add	.....	9.75	
		For Work In Restricted Working Space, Add	.....	14.53	
22 05 23 00-0007	EA	1" Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	.....	138.29	13.93
		For 150 LB Rating, Add	.....	7.97	
		For 200 LB Rating, Add	.....	11.95	
		For Work In Restricted Working Space, Add	.....	17.59	
22 05 23 00-0008	EA	1-1/4" Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	.....	204.33	14.82
		For 150 LB Rating, Add	.....	13.07	
		For 200 LB Rating, Add	.....	19.51	
		For Work In Restricted Working Space, Add	.....	22.28	
22 05 23 00-0009	EA	1-1/2" Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	.....	227.05	17.16
		For 150 LB Rating, Add	.....	14.13	
		For 200 LB Rating, Add	.....	21.20	
		For Work In Restricted Working Space, Add	.....	25.71	
22 05 23 00-0010	EA	2" Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	.....	272.53	20.27
		For 150 LB Rating, Add	.....	17.12	
		For 200 LB Rating, Add	.....	25.69	
		For Work In Restricted Working Space, Add	.....	30.39	
22 05 23 00-0011	EA	2-1/2" Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	.....	633.52	27.40
		For 150 LB Rating, Add	.....	49.67	
		For 200 LB Rating, Add	.....	74.51	
		For Work In Restricted Working Space, Add	.....	41.04	
		For Chain Operated Type, Add	.....	223.52	
22 05 23 00-0012	EA	3" Diameter, 125 LB Brazed Or Soldered Bronze Gate Valve	.....	743.97	31.81
		For 150 LB Rating, Add	.....	58.61	
		For 200 LB Rating, Add	.....	87.92	
		For Work In Restricted Working Space, Add	.....	47.36	
22 05 23 00-0013		Class 125 Brazed Or Soldered Bronze Lead Free Gate Valves (22 05 23 00-0001)			
		Note: 125 psi steam, basic rating. 200 psi cold working pressure. (Milwaukee Valve UP105, Nibco T113-LF)			
22 05 23 00-0014	EA	1/4" Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	.....	112.63	11.14
		For 150 LB Rating, Add	.....	8.02	
		For 200 LB Rating, Add	.....	12.03	
		For Work In Restricted Working Space, Add	.....	9.73	
22 05 23 00-0015	EA	3/8" Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	.....	114.17	11.14
		For 150 LB Rating, Add	.....	8.00	
		For 200 LB Rating, Add	.....	12.00	
		For Work In Restricted Working Space, Add	.....	10.25	
22 05 23 00-0016	EA	1/2" Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	.....	133.49	11.14
		For 150 LB Rating, Add	.....	9.75	
		For 200 LB Rating, Add	.....	14.63	
		For Work In Restricted Working Space, Add	.....	10.79	
22 05 23 00-0017	EA	3/4" Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	.....	150.50	12.26
		For 150 LB Rating, Add	.....	10.21	
		For 200 LB Rating, Add	.....	15.31	
		For Work In Restricted Working Space, Add	.....	14.53	
22 05 23 00-0018	EA	1" Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	.....	180.55	13.93
		For 150 LB Rating, Add	.....	12.19	
		For 200 LB Rating, Add	.....	18.29	
		For Work In Restricted Working Space, Add	.....	17.59	
22 05 23 00-0019	EA	1-1/4" Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	.....	262.13	14.82
		For 150 LB Rating, Add	.....	18.79	
		For 200 LB Rating, Add	.....	28.18	
		For Work In Restricted Working Space, Add	.....	22.28	
22 05 23 00-0020	EA	1-1/2" Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	.....	299.75	17.16
		For 150 LB Rating, Add	.....	21.40	
		For 200 LB Rating, Add	.....	32.11	
		For Work In Restricted Working Space, Add	.....	25.71	
22 05 23 00-0021	EA	2" Diameter, 125 LB Brazed Or Soldered Bronze Lead Free Gate Valve	.....	384.86	20.27
		For 150 LB Rating, Add	.....	28.36	
		For 200 LB Rating, Add	.....	42.54	
		For Work In Restricted Working Space, Add	.....	30.39	
22 05 23 00-0022		200 PSI, Non-Rising Stem, Crimped Bronze Gate Valves (22 05 23 00-0001)			
		Note: 200 psi cold working pressure.			
22 05 23 00-0023	EA	1/2" Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	.....	130.98	11.14
		For Work In Restricted Working Space, Add	.....	7.52	
22 05 23 00-0024	EA	3/4" Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	.....	147.47	12.26
		For Work In Restricted Working Space, Add	.....	8.57	
22 05 23 00-0025	EA	1" Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	.....	194.27	13.93
		For Work In Restricted Working Space, Add	.....	10.24	
22 05 23 00-0026	EA	1-1/4" Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	.....	266.09	14.82
		For Work In Restricted Working Space, Add	.....	11.28	
22 05 23 00-0027	EA	1-1/2" Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	.....	308.70	17.16
		For Work In Restricted Working Space, Add	.....	12.53	
22 05 23 00-0028	EA	2" Diameter, 200 PSI, Non-Rising Stem, Crimped Bronze Gate Valve	.....	425.91	20.27
		For Work In Restricted Working Space, Add	.....	15.04	

22 Plumbing**22 05 Common Work Results for Plumbing****22 05 23 General-Duty Valves for Plumbing Piping**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 05 23 00-0029		Ball Valves (22 05 23)		
22 05 23 00-0030		Crimped Bronze, Ball Valves (22 05 23 00-0029)		
22 05 23 00-0031		Crimped Bronze, 250 PSI, Ball Valves (22 05 23 00-0030) Note: Nibco®		
22 05 23 00-0032	EA	1/2" Crimped Bronze, 250 PSI, Ball Valve For Work In Restricted Working Space, Add	89.04 7.52	11.14
22 05 23 00-0033	EA	3/4" Crimped Bronze, 250 PSI, Ball Valve For Work In Restricted Working Space, Add	115.72 8.57	12.26
22 05 23 00-0034	EA	1" Crimped Bronze, 250 PSI, Ball Valve For Work In Restricted Working Space, Add	148.86 10.24	13.93
22 05 23 00-0035	EA	1-1/4" Crimped Bronze, 250 PSI, Ball Valve For Work In Restricted Working Space, Add	242.83 11.28	14.82
22 05 23 00-0036	EA	1-1/2" Crimped Bronze, 250 PSI, Ball Valve For Work In Restricted Working Space, Add	321.99 12.53	17.16
22 05 23 00-0037	EA	2" Crimped Bronze, 250 PSI, Ball Valve For Work In Restricted Working Space, Add	486.99 15.04	20.27
22 05 23 00-0038		Crimped Bronze, 200 PSI, Full Port Ball Valves (22 05 23 00-0030)		
22 05 23 00-0039	EA	1/2" Crimped Bronze, 200 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	53.30 7.52	11.14
22 05 23 00-0040	EA	3/4" Crimped Bronze, 200 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	68.23 8.57	12.26
22 05 23 00-0041	EA	1" Crimped Bronze, 200 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	82.96 10.24	13.93
22 05 23 00-0042	EA	1-1/4" Crimped Bronze, 200 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	116.98 11.28	14.82
22 05 23 00-0043	EA	1-1/2" Crimped Bronze, 200 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	151.67 12.53	17.16
22 05 23 00-0044	EA	2" Crimped Bronze, 200 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	225.66 15.04	20.27
22 05 23 00-0045		Crimped Bronze, 250 PSI, Full Port Ball Valves (22 05 23 00-0030)		
22 05 23 00-0046	EA	1/2" Crimped Bronze, 250 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	61.70 7.52	11.14
22 05 23 00-0047	EA	3/4" Crimped Bronze, 250 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	74.34 8.57	12.26
22 05 23 00-0048	EA	1" Crimped Bronze, 250 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	92.73 10.24	13.93
22 05 23 00-0049	EA	1-1/4" Crimped Bronze, 250 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	147.50 11.28	14.82
22 05 23 00-0050	EA	1-1/2" Crimped Bronze, 250 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	217.30 12.53	17.16
22 05 23 00-0051	EA	2" Crimped Bronze, 250 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	301.97 15.04	20.27
22 05 23 00-0052		Crimped x Threaded Bronze, 250 PSI, Full Port Ball Valves (22 05 23 00-0030)		
22 05 23 00-0053	EA	1/2" Crimped x Threaded Bronze, 250 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	59.41 7.52	11.14
22 05 23 00-0054	EA	3/4" Crimped x Threaded Bronze, 250 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	72.20 8.57	12.26
22 05 23 00-0055	EA	1" Crimped x Threaded Bronze, 250 PSI, Full Port, Lever Ball Valve For Work In Restricted Working Space, Add	87.84 10.24	13.93
22 05 23 00-0056		Check Valves (22 05 23)		
22 05 23 00-0057		Crimped Bronze, 200 PSI, Y-Pattern, Swing Check Valves (22 05 23 00-0056) Note: Nibco®		
22 05 23 00-0058	EA	1/2" Crimped Bronze, 200 PSI, Y-Pattern Check Valve For Work In Restricted Working Space, Add	172.89 7.52	11.14
22 05 23 00-0059	EA	3/4" Crimped Bronze, 200 PSI, Y-Pattern Check Valve For Work In Restricted Working Space, Add	220.51 8.57	12.26
22 05 23 00-0060	EA	1" Crimped Bronze, 200 PSI, Y-Pattern Check Valve For Work In Restricted Working Space, Add	305.50 10.24	13.93
22 05 23 00-0061	EA	1-1/4" Crimped Bronze, 200 PSI, Y-Pattern Check Valve For Work In Restricted Working Space, Add	408.27 11.28	14.82
22 05 23 00-0062	EA	1-1/2" Crimped Bronze, 200 PSI, Y-Pattern Check Valve For Work In Restricted Working Space, Add	487.46 12.53	17.16
22 05 23 00-0063	EA	2" Crimped Bronze, 200 PSI, Y-Pattern Check Valve For Work In Restricted Working Space, Add	698.81 15.04	20.27
22 05 23 00-0064		Crimped Bronze, 250 PSI, In-Line, Check Valves (22 05 23 00-0056)		
22 05 23 00-0065	EA	1/2" Crimped Bronze, 200 PSI, In-Line Check Valve For Work In Restricted Working Space, Add	46.86 7.52	11.14



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 05 23 00-0066	EA	3/4" Crimped Bronze, 200 PSI, In-Line Check Valve..... <i>For Work In Restricted Working Space, Add</i>	56.44 8.57	12.26
22 05 23 00-0067	EA	1" Crimped Bronze, 200 PSI, In-Line Check Valve..... <i>For Work In Restricted Working Space, Add</i>	66.26 10.24	13.93
22 05 23 00-0068	EA	1-1/4" Crimped Bronze, 200 PSI, In-Line Check Valve..... <i>For Work In Restricted Working Space, Add</i>	84.08 11.28	14.82
22 05 23 00-0069	EA	1-1/2" Crimped Bronze, 200 PSI, In-Line Check Valve..... <i>For Work In Restricted Working Space, Add</i>	107.76 12.53	17.16
22 05 23 00-0070	EA	2" Crimped Bronze, 200 PSI, In-Line Check Valve..... <i>For Work In Restricted Working Space, Add</i>	170.21 15.04	20.27
22 05 23 00-0071		Butterfly Valves (22 05 23)		
22 05 23 00-0072		Crimped Ductile Iron, 200 PSI, Handle Butterfly Valve (22 05 23 00-0071)		
22 05 23 00-0073	EA	2-1/2" Crimped Ductile Iron, 200 PSI, Handle Butterfly Valve..... <i>For Work In Restricted Working Space, Add</i>	1,307.58 17.55	29.75
22 05 23 00-0074	EA	3" Crimped Ductile Iron, 200 PSI, Handle Butterfly Valve..... <i>For Work In Restricted Working Space, Add</i>	1,414.80 20.89	34.54
22 05 23 00-0075	EA	4" Crimped Ductile Iron, 200 PSI, Handle Butterfly Valve..... <i>For Work In Restricted Working Space, Add</i>	1,768.03 27.58	39.00
22 05 23 00-0076		Regulators, Clay Valve (22 05 23)		
22 05 23 00-0077	EA	4" Regulator - Clay Valve.....	3,105.05	
22 05 23 00-0078	EA	8" Regulator - Clay Valve.....	4,222.07	
22 05 23 00-0079	EA	10" Regulator - Clay Valve.....	5,767.97	
22 05 23 00-0080	EA	12" Regulator - Clay Valve.....	7,010.78	
22 05 23 00-0081	EA	18" Regulator - Clay Valve.....	12,229.58	
22 05 23 00-0082	EA	24" Regulator - Clay Valve.....	19,761.77	
22 05 23 00-0083		Oxygen (Medical) Service Ball Valve (22 05 23)		
22 05 23 00-0084	EA	1/2" Pipe, Full Port, Bronze, 3 Piece, Inline, One Way Flow, Oxygen Service Ball Valves With Lever Handle (Nibco NJ93HE6).....	361.11	20.27
22 05 23 00-0085	EA	3/4" Pipe, Full Port, Bronze, 3 Piece, Inline, One Way Flow, Oxygen Service Ball Valves With Lever Handle (Nibco NJ93HE8).....	372.13	22.29
22 05 23 00-0086	EA	1" Pipe, Full Port, Bronze, 3 Piece, Inline, One Way Flow, Oxygen Service Ball Valves With Lever Handle (Nibco NJ93HCA).....	503.16	23.51
22 05 23 00-0087	EA	1-1/4" Pipe, Full Port, Bronze, 3 Piece, Inline, One Way Flow, Oxygen Service Ball Valves With Lever Handle (Nibco NJ93HEB).....	612.30	29.75
22 05 23 00-0088	EA	1-1/2" Pipe, Full Port, Bronze, 3 Piece, Inline, One Way Flow, Oxygen Service Ball Valves With Lever Handle (Nibco NJ93HEC).....	530.86	34.31
22 05 23 00-0089	EA	2" Pipe, Full Port, Bronze, 3 Piece, Inline, One Way Flow, Oxygen Service Ball Valves With Lever Handle (Nibco NJ9210D).....	812.07	40.56
22 05 29		Hangers and Supports for Plumbing Piping and Equipment (22 05)		
		See CSI section 23 05 29 00-0000 for hangers and supports.		
22 05 33		Heat Tracing for Plumbing Piping (22 05)		
		See CSI section 23 83 13 00-0000 for heat tracing cables.		
22 05 48		Vibration and Seismic Controls for Plumbing Piping and Equipment (22 05)		
22 05 48 13		Vibration Controls for Plumbing Piping and Equipment (22 05 48)		
		See CSI section 23 05 48 13-0000 for vibration and seismic control.		
22 05 53		Identification for Plumbing Piping and Equipment (22 05)		
		See CSI section 23 05 53 00-0000 for identification.		
22 05 76		Facility Drainage Piping Cleanouts (22 05)		
22 05 76 00-0001		Cast Iron Cleanout With Plug And Cover (22 05 76)		
		Note: For floor installation.		
22 05 76 00-0002		Cast Iron Cleanout With Plug And Round Or Square Cover (22 05 76 00-0001)		
22 05 76 00-0003	EA	2" Floor Cleanout, Round Or Square Top, Cast Iron With Cast Bronze Screw Plug And Nickel Bronze Cover..... <i>For Vandal Proof, Add</i> <i>For Galvanized Ferrule, Add</i> <i>For Carpet Marker, Add</i> <i>For Carpet Flange, Add</i> <i>For Wide Flange, Add</i> <i>For Satin Bronze Top, Deduct</i>	697.69 19.50 45.00 16.00 58.50 97.00 -24.00	59.27
22 05 76 00-0004	EA	3" Floor Cleanout, Round Or Square Top, Cast Iron With Cast Bronze Screw Plug And Nickel Bronze Cover..... <i>For Vandal Proof, Add</i> <i>For Galvanized Ferrule, Add</i> <i>For Carpet Marker, Add</i> <i>For Carpet Flange, Add</i> <i>For Wide Flange, Add</i> <i>For Satin Bronze Top, Deduct</i>	751.78 19.50 45.00 16.00 58.50 97.00 -24.00	74.32

22 Plumbing**22 05 Common Work Results for Plumbing****22 05 76 Facility Drainage Piping Cleanouts**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 05 76 00-0005 EA 4" Floor Cleanout, Round Or Square Top, Cast Iron With Cast Bronze Screw Plug And Nickel Bronze Cover.....	939.32	89.80
For Vandal Proof, Add	19.50	
For Galvanized Ferrule, Add	45.00	
For Carpet Marker, Add	16.00	
For Carpet Flange, Add	58.50	
For Wide Flange, Add	97.00	
For Satin Bronze Top, Deduct	-24.00	
22 05 76 00-0006 EA 5" Floor Cleanout, Round Or Square Top, Cast Iron With Cast Bronze Screw Plug And Nickel Bronze Cover.....	1,354.08	100.50
For Vandal Proof, Add	19.50	
For Galvanized Ferrule, Add	45.00	
For Carpet Marker, Add	16.00	
For Carpet Flange, Add	58.50	
For Wide Flange, Add	97.00	
For Satin Bronze Top, Deduct	-24.00	
22 05 76 00-0007 EA 6" Floor Cleanout, Round Or Square Top, Cast Iron With Cast Bronze Screw Plug And Nickel Bronze Cover.....	1,669.85	108.85
For Vandal Proof, Add	19.50	
For Galvanized Ferrule, Add	45.00	
For Carpet Marker, Add	16.00	
For Carpet Flange, Add	58.50	
For Wide Flange, Add	97.00	
For Satin Bronze Top, Deduct	-24.00	
22 05 76 00-0008 Cast Iron Heavy Duty Cleanout With Plug And Round Cover (22 05 76 00-0001)		
22 05 76 00-0009 EA 2" Heavy Duty Floor Cleanout, Round Top, Cast Iron With Cast Bronze Screw Plug And Nickel Bronze Cover.....	805.96	59.27
For Vandal Proof, Add	19.50	
For Galvanized Ferrule, Add	45.00	
For Carpet Marker, Add	16.00	
For Carpet Flange, Add	58.50	
For Wide Flange, Add	97.00	
For Satin Bronze Top, Deduct	-24.00	
22 05 76 00-0010 EA 3" Heavy Duty Floor Cleanout, Round Top, Cast Iron With Cast Bronze Screw Plug And Nickel Bronze Cover.....	861.77	74.32
For Vandal Proof, Add	19.50	
For Galvanized Ferrule, Add	45.00	
For Carpet Marker, Add	16.00	
For Carpet Flange, Add	58.50	
For Wide Flange, Add	97.00	
For Satin Bronze Top, Deduct	-24.00	
22 05 76 00-0011 EA 4" Heavy Duty Floor Cleanout, Round Top, Cast Iron With Cast Bronze Screw Plug And Nickel Bronze Cover.....	1,049.31	89.80
For Vandal Proof, Add	19.50	
For Galvanized Ferrule, Add	45.00	
For Carpet Marker, Add	16.00	
For Carpet Flange, Add	58.50	
For Wide Flange, Add	97.00	
For Satin Bronze Top, Deduct	-24.00	
22 05 76 00-0012 EA 5" Heavy Duty Floor Cleanout, Round Top, Cast Iron With Cast Bronze Screw Plug And Nickel Bronze Cover.....	1,464.07	100.50
For Vandal Proof, Add	19.50	
For Galvanized Ferrule, Add	45.00	
For Carpet Marker, Add	16.00	
For Carpet Flange, Add	58.50	
For Wide Flange, Add	97.00	
For Satin Bronze Top, Deduct	-24.00	
22 05 76 00-0013 EA 6" Heavy Duty Floor Cleanout, Round Top, Cast Iron With Cast Bronze Screw Plug And Nickel Bronze Cover.....	1,779.84	108.85
For Vandal Proof, Add	19.50	
For Galvanized Ferrule, Add	45.00	
For Carpet Marker, Add	16.00	
For Carpet Flange, Add	58.50	
For Wide Flange, Add	97.00	
For Satin Bronze Top, Deduct	-24.00	
22 05 76 00-0014 Wall Cover For Cleanout (22 05 76)		
Note: Cover and screw only.		
22 05 76 00-0015 Round Access Cover, Bronze Polished Top (22 05 76 00-0014)		
Note: Cover and screw only.		
22 05 76 00-0016 EA 4-1/4" Diameter Wall Cover For Cleanout, Screwed.....	102.45	18.60
For Stainless Steel, Add	9.00	
For Vandal Proof Screws, Add	19.50	
22 05 76 00-0017 EA 5-1/2" Diameter Wall Cover For Cleanout, Screwed.....	109.88	22.29
For Stainless Steel, Add	9.00	
For Vandal Proof Screws, Add	19.50	
22 05 76 00-0018 EA 7" Diameter Wall Cover For Cleanout, Screwed.....	141.22	25.07
For Stainless Steel, Add	9.00	
For Vandal Proof Screws, Add	19.50	
22 05 76 00-0019 EA 9-1/4" Diameter Wall Cover For Cleanout, Screwed.....	243.04	27.86
For Stainless Steel, Add	9.00	
For Vandal Proof Screws, Add	19.50	
22 05 76 00-0020 EA 11-1/4" Diameter Wall Cover For Cleanout, Screwed.....	368.91	30.64
For Stainless Steel, Add	9.00	
For Vandal Proof Screws, Add	19.50	
22 05 76 00-0021 Square Wall Access Panel, Bronze Polished Top (22 05 76 00-0014)		
Note: Cover and screw only.		



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 05 76 00-0022	EA		7" x 7" Bronze Wall Or Floor Access Cover..... For Vandal Proof Screws, Add For Nickel Bronze, Add	561.05 19.50 22.50	18.60
22 05 76 00-0023	EA		9" x 9" Bronze Wall Or Floor Access Cover..... For Vandal Proof Screws, Add For Nickel Bronze, Add	810.31 19.50 22.50	19.50
22 05 76 00-0024	EA		10" x 10" Bronze Wall Or Floor Access Cover..... For Vandal Proof Screws, Add For Nickel Bronze, Add	865.89 19.50 22.50	20.62
22 05 76 00-0025	EA		14" x 14" Bronze Wall Or Floor Access Cover..... For Vandal Proof Screws, Add For Nickel Bronze, Add	968.48 19.50 22.50	23.40
22 05 76 00-0026			Secured Square Wall Access Panel, Bronze Polished Top (22 05 76 00-0014) Note: Cover and screw only.		
22 05 76 00-0027	EA		6" x 6" Bronze Secured Wall Access Panel..... For Vandal Proof Screws, Add For Nickel Bronze, Add	571.07 19.50 22.50	18.60
22 05 76 00-0028	EA		8" x 8" Bronze Secured Wall Access Panel..... For Vandal Proof Screws, Add For Nickel Bronze, Add	825.06 19.50 22.50	19.50
22 05 76 00-0029	EA		10" x 10" Bronze Secured Wall Access Panel..... For Vandal Proof Screws, Add For Nickel Bronze, Add	881.67 19.50 22.50	20.62
22 05 76 00-0030	EA		12" x 12" Bronze Secured Wall Access Panel..... For Vandal Proof Screws, Add For Nickel Bronze, Add	986.11 19.50 22.50	23.40
22 05 76 00-0031			Secure Square Hinged Access Panel, Bronze Polished Top, Scoriated (22 05 76 00-0014) Note: Cover and screw only.		
22 05 76 00-0032	EA		6" x 6" Bronze Secured Hinged Access Panel, Scoriated..... For Vandal Proof Screws, Add For Nickel Bronze, Add	553.77 19.50 22.50	18.60
22 05 76 00-0033	EA		8" x 8" Bronze Secured Hinged Access Panel, Scoriated..... For Vandal Proof Screws, Add For Nickel Bronze, Add	768.21 19.50 22.50	19.50
22 05 76 00-0034	EA		10" x 10" Bronze Secured Hinged Access Panel, Scoriated..... For Vandal Proof Screws, Add For Nickel Bronze, Add	1,091.78 19.50 22.50	20.62
22 05 76 00-0035	EA		12" x 12" Bronze Secured Hinged Access Panel, Scoriated..... For Vandal Proof Screws, Add For Nickel Bronze, Add	1,322.29 19.50 22.50	23.40
22 05 76 00-0036			Cast Iron Cleanout Tee (22 05 76)		
22 05 76 00-0037			Cast Iron Cleanout Tee And Round Access Cover (22 05 76 00-0036) Note: Satin smooth secured cover.		
22 05 76 00-0038	EA		2" Cleanout Tee With Bronze Screw Plug And Round Polished Bronze Cover..... For Vandal Proof Screws, Add For Galvanized Cast Iron Parts, Add	503.05 19.50 45.00	59.27
22 05 76 00-0039	EA		3" Cleanout Tee With Bronze Screw Plug And Round Polished Bronze Cover..... For Vandal Proof Screws, Add For Galvanized Cast Iron Parts, Add	573.09 19.50 45.00	74.21
22 05 76 00-0040	EA		4" Cleanout Tee With Bronze Screw Plug And Round Polished Bronze Cover..... For Vandal Proof Screws, Add For Galvanized Cast Iron Parts, Add	750.11 19.50 45.00	89.80
22 05 76 00-0041	EA		6" Cleanout Tee With Bronze Screw Plug And Round Polished Bronze Cover..... For Vandal Proof Screws, Add For Galvanized Cast Iron Parts, Add	1,819.49 19.50 45.00	108.85
22 05 76 00-0042			Cast Iron Cleanout Tee And Square Access Cover (22 05 76 00-0036) Note: Satin smooth secured cover.		
22 05 76 00-0043	EA		2" Cleanout Tee With Cast Bronze Screw Plug And Square Nickel Bronze Cover..... For Vandal Proof Screws, Add For Galvanized Cast Iron Parts, Add	887.57 19.50 45.00	59.27
22 05 76 00-0044	EA		3" Cleanout Tee With Cast Bronze Screw Plug And Square Nickel Bronze Cover..... For Vandal Proof Screws, Add For Galvanized Cast Iron Parts, Add	957.62 19.50 45.00	74.21
22 05 76 00-0045	EA		4" Cleanout Tee With Cast Bronze Screw Plug And Square Nickel Bronze Cover..... For Vandal Proof Screws, Add For Galvanized Cast Iron Parts, Add	1,109.12 19.50 45.00	89.80
22 05 76 00-0046	EA		6" Cleanout Tee With Cast Bronze Screw Plug And Square Nickel Bronze Cover..... For Vandal Proof Screws, Add For Galvanized Cast Iron Parts, Add	2,338.87 19.50 45.00	108.85
22 05 76 00-0047			Cast Iron Cleanout Tee With Brass Plug (22 05 76 00-0036)		
22 05 76 00-0048	EA		2" Cleanout Tee With Cast Bronze Screw Plug.....	412.31	48.46
22 05 76 00-0049	EA		3" Cleanout Tee With Cast Bronze Screw Plug.....	461.33	52.93
22 05 76 00-0050	EA		4" Cleanout Tee With Cast Bronze Screw Plug.....	615.07	69.64

22 Plumbing**22 05 Common Work Results for Plumbing**

22 05 76 Facility Drainage Piping Cleanouts



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 05 76 00-0051	EA		5" Cleanout Tee With Cast Bronze Screw Plug	930.55	82.45
22 05 76 00-0052	EA		6" Cleanout Tee With Cast Bronze Screw Plug	1,598.68	97.49
22 05 76 00-0053			Removable Cleanout Plug (22 05 76)		
22 05 76 00-0054			Threaded Bronze Plugs (22 05 76 00-0053)		
22 05 76 00-0055	EA		1-1/4", 1-1/2" Or 2" Threaded Bronze Plug	79.43	13.93
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0056	EA		2-1/2" Threaded Bronze Plug	95.70	15.16
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0057	EA		3" Threaded Bronze Plug	166.84	16.71
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0058	EA		3-1/2" Threaded Bronze Plug	186.47	19.50
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0059	EA		4" Threaded Bronze Plug	210.76	22.29
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0060	EA		5" Threaded Bronze Plug	298.22	25.07
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0061	EA		6" Threaded Bronze Plug	441.83	27.86
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0062	EA		8" Threaded Bronze Plug	751.46	30.64
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0063	EA		10" Threaded Bronze Plug	1,084.56	33.43
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0064			Threaded Brass Plugs (22 05 76 00-0053)		
22 05 76 00-0065	EA		1-1/2" Threaded Brass Plug, Raised Head	31.32	13.93
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0066	EA		2" Threaded Brass Plug, Raised Head	31.93	13.93
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0067	EA		2-1/2" Threaded Brass Plug, Raised Head	34.84	15.15
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0068	EA		3" Threaded Brass Plug, Raised Head	39.50	16.71
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0069	EA		3-1/2" Threaded Brass Plug, Raised Head	46.70	19.50
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0070	EA		4" Threaded Brass Plug, Raised Head	55.00	22.28
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0071	EA		4-1/2" Threaded Brass Plug, Raised Head	59.14	23.47
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0072	EA		5" Threaded Brass Plug, Raised Head	63.64	25.07
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0073	EA		6" Threaded Brass Plug, Raised Head	83.84	27.85
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0074	EA		1-1/2" Threaded Brass Plug, Countersunk Head	30.85	13.93
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0075	EA		2" Threaded Brass Plug, Countersunk Head	31.52	13.93
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0076	EA		2-1/2" Threaded Brass Plug, Countersunk Head	36.15	15.15
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0077	EA		3" Threaded Brass Plug, Countersunk Head	39.69	16.71
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0078	EA		3-1/2" Threaded Brass Plug, Countersunk Head	46.14	19.50
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0079	EA		4" Threaded Brass Plug, Countersunk Head	54.11	22.29
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0080	EA		5" Threaded Brass Plug, Countersunk Head	63.16	25.07
			For Plug Tapped For Center Screw, Add	9.50	
22 05 76 00-0081	EA		6" Threaded Brass Plug, Countersunk Head	75.99	27.86
			For Plug Tapped For Center Screw, Add	9.50	
22 07 Plumbing Insulation (22)					
22 07 16 Plumbing Equipment Insulation (22 07)					
22 07 16 00-0001			Lavatory Insulation (22 07 16)		
22 07 16 00-0002	EA		Neoprene Insulation Kit For Under Lavatories	359.40	24.20
22 07 19 Plumbing Piping Insulation (22 07)					
22 07 19 00-0001			Fiberglass (Glass Fiber) Pipe Insulation (22 07 19)		
			Note: Includes factory applied All Service Jacket (ASJ), Self Sealing Lap (SSL) longitudinal seam, butt strip seals, and adhesive. Excludes insulation for fittings (a location requiring purchase of an insulation fitting or cutting and fitting straight sections, excludes couplings, plugs, etc.). For fittings/valves up to 3" add 2 LF for each fitting/valve or 3 LF for each flanged/grooved joint. For fittings/valves >3" add 3 LF for each fitting/valve or 4 LF for each flanged/grooved joint.		
22 07 19 00-0002			1/2" Thick Fiberglass Pipe Insulation (22 07 19 00-0001)		



Plumbing		22	22
Plumbing Insulation		22 07	
Plumbing Piping Insulation		22 07 19	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0003	LF		1/2" Diameter Pipe, 1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	8.23	2.37
			For Single Layer Of Felt Finish, Add	0.19	
			For Work In Restricted Working Space, Add	1.92	
22 07 19 00-0004	LF		3/4" Diameter Pipe, 1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	8.42	2.37
			For Single Layer Of Felt Finish, Add	0.21	
			For Work In Restricted Working Space, Add	1.92	
22 07 19 00-0005	LF		1" Diameter Pipe, 1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	8.95	2.48
			For Single Layer Of Felt Finish, Add	0.23	
			For Work In Restricted Working Space, Add	2.04	
22 07 19 00-0006	LF		1-1/4" Diameter Pipe, 1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	9.29	2.58
			For Single Layer Of Felt Finish, Add	0.25	
			For Work In Restricted Working Space, Add	2.07	
22 07 19 00-0007	LF		1-1/2" Diameter Pipe, 1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	9.56	2.58
			For Single Layer Of Felt Finish, Add	0.26	
			For Work In Restricted Working Space, Add	2.11	
22 07 19 00-0008	LF		2" Diameter Pipe, 1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	10.13	2.69
			For Single Layer Of Felt Finish, Add	0.28	
			For Work In Restricted Working Space, Add	2.23	
22 07 19 00-0009	LF		2-1/2" Diameter Pipe, 1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	10.66	2.80
			For Single Layer Of Felt Finish, Add	0.33	
			For Work In Restricted Working Space, Add	2.27	
22 07 19 00-0010	LF		3" Diameter Pipe, 1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	11.27	2.90
			For Single Layer Of Felt Finish, Add	0.36	
			For Work In Restricted Working Space, Add	2.34	
22 07 19 00-0011	LF		4" Diameter Pipe, 1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	12.89	3.12
			For Single Layer Of Felt Finish, Add	0.47	
			For Work In Restricted Working Space, Add	2.54	
22 07 19 00-0012	LF		6" Diameter Pipe, 1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	15.24	3.66
			For Single Layer Of Felt Finish, Add	0.56	
			For Work In Restricted Working Space, Add	2.96	
22 07 19 00-0013 1" Thick Fiberglass Pipe Insulation (22 07 19 00-0001)					
22 07 19 00-0014	LF		1/2" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	11.00	3.22
			For Single Layer Of Felt Finish, Add	0.23	
			For Work In Restricted Working Space, Add	2.65	
22 07 19 00-0015	LF		3/4" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	11.32	3.22
			For Single Layer Of Felt Finish, Add	0.26	
			For Work In Restricted Working Space, Add	2.65	
22 07 19 00-0016	LF		1" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	11.49	3.22
			For Single Layer Of Felt Finish, Add	0.26	
			For Work In Restricted Working Space, Add	2.69	
22 07 19 00-0017	LF		1-1/4" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	11.94	3.33
			For Single Layer Of Felt Finish, Add	0.30	
			For Work In Restricted Working Space, Add	2.73	
22 07 19 00-0018	LF		1-1/2" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	12.29	3.33
			For Single Layer Of Felt Finish, Add	0.32	
			For Work In Restricted Working Space, Add	2.77	
22 07 19 00-0019	LF		2" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	12.83	3.45
			For Single Layer Of Felt Finish, Add	0.35	
			For Work In Restricted Working Space, Add	2.84	
22 07 19 00-0020	LF		2-1/2" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	13.56	3.66
			For Single Layer Of Felt Finish, Add	0.39	
			For Work In Restricted Working Space, Add	2.96	
22 07 19 00-0021	LF		3" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	14.28	3.77
			For Single Layer Of Felt Finish, Add	0.44	
			For Work In Restricted Working Space, Add	3.03	
22 07 19 00-0022	LF		4" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	16.26	3.98
			For Single Layer Of Felt Finish, Add	0.56	
			For Work In Restricted Working Space, Add	3.26	
22 07 19 00-0023	LF		6" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	18.86	4.62
			For Single Layer Of Felt Finish, Add	0.69	
			For Work In Restricted Working Space, Add	3.68	
22 07 19 00-0024	LF		8" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	23.48	5.17
			For Single Layer Of Felt Finish, Add	0.99	
			For Work In Restricted Working Space, Add	4.22	
22 07 19 00-0025	LF		10" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	27.61	6.14
			For Single Layer Of Felt Finish, Add	1.15	
			For Work In Restricted Working Space, Add	4.99	
22 07 19 00-0026	LF		12" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	31.67	6.99
			For Single Layer Of Felt Finish, Add	1.31	
			For Work In Restricted Working Space, Add	5.76	
22 07 19 00-0027	LF		14" Diameter Pipe, 1" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	34.32	7.64
			For Single Layer Of Felt Finish, Add	1.52	
			For Work In Restricted Working Space, Add	5.96	
22 07 19 00-0028 1-1/2" Thick Fiberglass Pipe Insulation (22 07 19 00-0001)					
22 07 19 00-0029	LF		1/2" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	13.60	3.32
			For Single Layer Of Felt Finish, Add	0.46	
			For Work In Restricted Working Space, Add	2.76	
22 07 19 00-0030	LF		3/4" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	13.80	3.32
			For Single Layer Of Felt Finish, Add	0.48	
			For Work In Restricted Working Space, Add	2.76	

22 Plumbing**22 07 Plumbing Insulation****22 07 19 Plumbing Piping Insulation**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0031	LF	1" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	14.57	3.52
		For Single Layer Of Felt Finish, Add	0.51	
		For Work In Restricted Working Space, Add	2.93	
22 07 19 00-0032	LF	1-1/4" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	15.12	3.60
		For Single Layer Of Felt Finish, Add	0.54	
		For Work In Restricted Working Space, Add	2.98	
22 07 19 00-0033	LF	1-1/2" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	15.58	3.66
		For Single Layer Of Felt Finish, Add	0.57	
		For Work In Restricted Working Space, Add	3.04	
22 07 19 00-0034	LF	2" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	16.64	3.85
		For Single Layer Of Felt Finish, Add	0.63	
		For Work In Restricted Working Space, Add	3.20	
22 07 19 00-0035	LF	2-1/2" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	17.41	3.92
		For Single Layer Of Felt Finish, Add	0.69	
		For Work In Restricted Working Space, Add	3.26	
22 07 19 00-0036	LF	3" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	17.98	4.06
		For Single Layer Of Felt Finish, Add	0.71	
		For Work In Restricted Working Space, Add	3.37	
22 07 19 00-0037	LF	4" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	19.88	4.39
		For Single Layer Of Felt Finish, Add	0.81	
		For Work In Restricted Working Space, Add	3.64	
22 07 19 00-0038	LF	6" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	23.00	5.12
		For Single Layer Of Felt Finish, Add	0.93	
		For Work In Restricted Working Space, Add	4.25	
22 07 19 00-0039	LF	8" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	26.01	5.40
		For Single Layer Of Felt Finish, Add	1.16	
		For Work In Restricted Working Space, Add	4.49	
22 07 19 00-0040	LF	10" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	31.85	6.47
		For Single Layer Of Felt Finish, Add	1.46	
		For Work In Restricted Working Space, Add	5.37	
22 07 19 00-0041	LF	12" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	36.03	7.53
		For Single Layer Of Felt Finish, Add	1.59	
		For Work In Restricted Working Space, Add	6.26	
22 07 19 00-0042	LF	14" Diameter Pipe, 1-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	40.43	8.25
		For Single Layer Of Felt Finish, Add	1.84	
		For Work In Restricted Working Space, Add	6.86	
22 07 19 00-0043		2" Thick Fiberglass Pipe Insulation (22 07 19 00-0001)		
22 07 19 00-0044	LF	1/2" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	16.99	3.66
		For Single Layer Of Felt Finish, Add	0.72	
		For Work In Restricted Working Space, Add	3.03	
22 07 19 00-0045	LF	3/4" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	17.22	3.66
		For Single Layer Of Felt Finish, Add	0.75	
		For Work In Restricted Working Space, Add	3.03	
22 07 19 00-0046	LF	1" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	17.86	3.77
		For Single Layer Of Felt Finish, Add	0.80	
		For Work In Restricted Working Space, Add	3.08	
22 07 19 00-0047	LF	1-1/4" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	18.41	3.77
		For Single Layer Of Felt Finish, Add	0.84	
		For Work In Restricted Working Space, Add	3.11	
22 07 19 00-0048	LF	1-1/2" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	19.00	3.87
		For Single Layer Of Felt Finish, Add	0.89	
		For Work In Restricted Working Space, Add	3.15	
22 07 19 00-0049	LF	2" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	19.71	3.98
		For Single Layer Of Felt Finish, Add	0.93	
		For Work In Restricted Working Space, Add	3.26	
22 07 19 00-0050	LF	2-1/2" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	20.76	4.09
		For Single Layer Of Felt Finish, Add	1.00	
		For Work In Restricted Working Space, Add	3.38	
22 07 19 00-0051	LF	3" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	21.89	4.30
		For Single Layer Of Felt Finish, Add	1.07	
		For Work In Restricted Working Space, Add	3.50	
22 07 19 00-0052	LF	4" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	24.00	4.51
		For Single Layer Of Felt Finish, Add	1.23	
		For Work In Restricted Working Space, Add	3.69	
22 07 19 00-0053	LF	6" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	28.36	5.30
		For Single Layer Of Felt Finish, Add	1.43	
		For Work In Restricted Working Space, Add	4.43	
22 07 19 00-0054	LF	8" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	32.39	5.60
		For Single Layer Of Felt Finish, Add	1.77	
		For Work In Restricted Working Space, Add	4.67	
22 07 19 00-0055	LF	10" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	38.76	6.70
		For Single Layer Of Felt Finish, Add	2.11	
		For Work In Restricted Working Space, Add	5.59	
22 07 19 00-0056	LF	12" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	44.42	8.04
		For Single Layer Of Felt Finish, Add	2.32	
		For Work In Restricted Working Space, Add	6.69	
22 07 19 00-0057	LF	14" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	56.13	8.76
		For Single Layer Of Felt Finish, Add	2.63	
		For Work In Restricted Working Space, Add	9.34	
22 07 19 00-0058	LF	16" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	59.59	10.28
		For Single Layer Of Felt Finish, Add	2.99	
		For Work In Restricted Working Space, Add	9.34	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0059	LF		18" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	66.50	10.79
			For Single Layer Of Felt Finish, Add	3.55	
			For Work In Restricted Working Space, Add	9.80	
22 07 19 00-0060	LF		20" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	75.31	12.33
			For Single Layer Of Felt Finish, Add	3.98	
			For Work In Restricted Working Space, Add	11.21	
22 07 19 00-0061	LF		24" Diameter Pipe, 2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	87.20	14.90
			For Single Layer Of Felt Finish, Add	4.42	
			For Work In Restricted Working Space, Add	13.54	
22 07 19 00-0062			2-1/2" Thick Fiberglass Pipe Insulation (22 07 19 00-0001)		
22 07 19 00-0063	LF		1/2" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	21.24	4.30
			For Single Layer Of Felt Finish, Add	1.00	
			For Work In Restricted Working Space, Add	3.50	
22 07 19 00-0064	LF		3/4" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	21.57	4.30
			For Single Layer Of Felt Finish, Add	1.04	
			For Work In Restricted Working Space, Add	3.50	
22 07 19 00-0065	LF		1" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	22.47	4.30
			For Single Layer Of Felt Finish, Add	1.12	
			For Work In Restricted Working Space, Add	3.56	
22 07 19 00-0066	LF		1-1/4" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	23.16	4.41
			For Single Layer Of Felt Finish, Add	1.18	
			For Work In Restricted Working Space, Add	3.59	
22 07 19 00-0067	LF		1-1/2" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	23.87	4.41
			For Single Layer Of Felt Finish, Add	1.24	
			For Work In Restricted Working Space, Add	3.61	
22 07 19 00-0068	LF		2" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	24.85	4.62
			For Single Layer Of Felt Finish, Add	1.29	
			For Work In Restricted Working Space, Add	3.76	
22 07 19 00-0069	LF		2-1/2" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	26.30	4.73
			For Single Layer Of Felt Finish, Add	1.40	
			For Work In Restricted Working Space, Add	3.89	
22 07 19 00-0070	LF		3" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	27.61	4.95
			For Single Layer Of Felt Finish, Add	1.49	
			For Work In Restricted Working Space, Add	4.03	
22 07 19 00-0071	LF		4" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	30.67	5.17
			For Single Layer Of Felt Finish, Add	1.73	
			For Work In Restricted Working Space, Add	4.25	
22 07 19 00-0072	LF		6" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	35.19	5.49
			For Single Layer Of Felt Finish, Add	2.01	
			For Work In Restricted Working Space, Add	4.82	
22 07 19 00-0073	LF		8" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	47.66	6.56
			For Single Layer Of Felt Finish, Add	3.12	
			For Work In Restricted Working Space, Add	5.38	
22 07 19 00-0074	LF		10" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	57.05	7.53
			For Single Layer Of Felt Finish, Add	3.82	
			For Work In Restricted Working Space, Add	6.20	
22 07 19 00-0075	LF		12" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	64.44	9.36
			For Single Layer Of Felt Finish, Add	4.07	
			For Work In Restricted Working Space, Add	7.71	
22 07 19 00-0076	LF		14" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	73.05	10.33
			For Single Layer Of Felt Finish, Add	4.72	
			For Work In Restricted Working Space, Add	8.42	
22 07 19 00-0077	LF		16" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	85.43	13.13
			For Single Layer Of Felt Finish, Add	5.21	
			For Work In Restricted Working Space, Add	10.76	
22 07 19 00-0078	LF		18" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	92.05	13.77
			For Single Layer Of Felt Finish, Add	5.71	
			For Work In Restricted Working Space, Add	11.30	
22 07 19 00-0079	LF		20" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	104.41	15.71
			For Single Layer Of Felt Finish, Add	6.44	
			For Work In Restricted Working Space, Add	12.91	
22 07 19 00-0080	LF		24" Diameter Pipe, 2-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	122.55	18.98
			For Single Layer Of Felt Finish, Add	7.41	
			For Work In Restricted Working Space, Add	15.60	
22 07 19 00-0081			3" Thick Fiberglass Pipe Insulation (22 07 19 00-0001)		
22 07 19 00-0082	LF		1/2" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	23.41	4.76
			For Single Layer Of Felt Finish, Add	1.10	
			For Work In Restricted Working Space, Add	3.87	
22 07 19 00-0083	LF		3/4" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	23.77	4.76
			For Single Layer Of Felt Finish, Add	1.14	
			For Work In Restricted Working Space, Add	3.87	
22 07 19 00-0084	LF		1" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	24.70	4.80
			For Single Layer Of Felt Finish, Add	1.22	
			For Work In Restricted Working Space, Add	3.92	
22 07 19 00-0085	LF		1-1/4" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	25.44	4.83
			For Single Layer Of Felt Finish, Add	1.29	
			For Work In Restricted Working Space, Add	3.94	
22 07 19 00-0086	LF		1-1/2" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	26.27	4.89
			For Single Layer Of Felt Finish, Add	1.36	
			For Work In Restricted Working Space, Add	3.98	

22 Plumbing**22 07 Plumbing Insulation****22 07 19 Plumbing Piping Insulation**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0087	LF	2" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	27.29	5.07
		For Single Layer Of Felt Finish, Add	1.42	
		For Work In Restricted Working Space, Add	4.13	
22 07 19 00-0088	LF	2-1/2" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	28.88	5.24
		For Single Layer Of Felt Finish, Add	1.54	
		For Work In Restricted Working Space, Add	4.27	
22 07 19 00-0089	LF	3" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	30.33	5.43
		For Single Layer Of Felt Finish, Add	1.64	
		For Work In Restricted Working Space, Add	4.43	
22 07 19 00-0090	LF	4" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	33.70	5.73
		For Single Layer Of Felt Finish, Add	1.90	
		For Work In Restricted Working Space, Add	4.67	
22 07 19 00-0091	LF	6" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	38.65	6.51
		For Single Layer Of Felt Finish, Add	2.20	
		For Work In Restricted Working Space, Add	5.30	
22 07 19 00-0092	LF	8" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	52.33	7.25
		For Single Layer Of Felt Finish, Add	3.43	
		For Work In Restricted Working Space, Add	5.91	
22 07 19 00-0093	LF	10" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	62.67	8.37
		For Single Layer Of Felt Finish, Add	4.19	
		For Work In Restricted Working Space, Add	6.82	
22 07 19 00-0094	LF	12" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	70.78	10.41
		For Single Layer Of Felt Finish, Add	4.46	
		For Work In Restricted Working Space, Add	8.48	
22 07 19 00-0095	LF	14" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	80.24	11.36
		For Single Layer Of Felt Finish, Add	5.18	
		For Work In Restricted Working Space, Add	9.26	
22 07 19 00-0096	LF	16" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	93.85	14.51
		For Single Layer Of Felt Finish, Add	5.71	
		For Work In Restricted Working Space, Add	11.83	
22 07 19 00-0097	LF	18" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	101.12	15.24
		For Single Layer Of Felt Finish, Add	6.27	
		For Work In Restricted Working Space, Add	12.42	
22 07 19 00-0098	LF	20" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	114.71	17.43
		For Single Layer Of Felt Finish, Add	7.07	
		For Work In Restricted Working Space, Add	14.21	
22 07 19 00-0099	LF	24" Diameter Pipe, 3" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	134.63	21.04
		For Single Layer Of Felt Finish, Add	8.13	
		For Work In Restricted Working Space, Add	17.16	
22 07 19 00-0100 3-1/2" Thick Fiberglass Pipe Insulation (22 07 19 00-0001)				
22 07 19 00-0101	LF	1/2" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	25.20	5.17
		For Single Layer Of Felt Finish, Add	1.16	
		For Work In Restricted Working Space, Add	4.25	
22 07 19 00-0102	LF	3/4" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	25.62	5.17
		For Single Layer Of Felt Finish, Add	1.20	
		For Work In Restricted Working Space, Add	4.25	
22 07 19 00-0103	LF	1" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	26.99	5.17
		For Single Layer Of Felt Finish, Add	1.34	
		For Work In Restricted Working Space, Add	4.27	
22 07 19 00-0104	LF	1-1/4" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	27.78	5.27
		For Single Layer Of Felt Finish, Add	1.41	
		For Work In Restricted Working Space, Add	4.30	
22 07 19 00-0105	LF	1-1/2" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	28.71	5.27
		For Single Layer Of Felt Finish, Add	1.49	
		For Work In Restricted Working Space, Add	4.36	
22 07 19 00-0106	LF	2" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	29.78	5.49
		For Single Layer Of Felt Finish, Add	1.55	
		For Work In Restricted Working Space, Add	4.50	
22 07 19 00-0107	LF	2-1/2" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	31.52	5.70
		For Single Layer Of Felt Finish, Add	1.68	
		For Work In Restricted Working Space, Add	4.66	
22 07 19 00-0108	LF	3" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	32.99	5.91
		For Single Layer Of Felt Finish, Add	1.78	
		For Work In Restricted Working Space, Add	4.82	
22 07 19 00-0109	LF	4" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	36.83	6.24
		For Single Layer Of Felt Finish, Add	2.08	
		For Work In Restricted Working Space, Add	5.10	
22 07 19 00-0110	LF	6" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	42.20	7.10
		For Single Layer Of Felt Finish, Add	2.41	
		For Work In Restricted Working Space, Add	5.79	
22 07 19 00-0111	LF	8" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	57.15	7.85
		For Single Layer Of Felt Finish, Add	3.74	
		For Work In Restricted Working Space, Add	6.45	
22 07 19 00-0112	LF	10" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	68.46	9.04
		For Single Layer Of Felt Finish, Add	4.58	
		For Work In Restricted Working Space, Add	7.44	
22 07 19 00-0113	LF	12" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	77.31	11.29
		For Single Layer Of Felt Finish, Add	4.88	
		For Work In Restricted Working Space, Add	9.25	
22 07 19 00-0114	LF	14" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	87.68	12.37
		For Single Layer Of Felt Finish, Add	5.67	
		For Work In Restricted Working Space, Add	10.10	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0115	LF		16" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	102.54	15.71
			For Single Layer Of Felt Finish, Add	6.25	
			For Work In Restricted Working Space, Add	12.91	
22 07 19 00-0116	LF		18" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	110.45	16.56
			For Single Layer Of Felt Finish, Add	6.85	
			For Work In Restricted Working Space, Add	13.55	
22 07 19 00-0117	LF		20" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	125.34	18.93
			For Single Layer Of Felt Finish, Add	7.74	
			For Work In Restricted Working Space, Add	15.50	
22 07 19 00-0118	LF		24" Diameter Pipe, 3-1/2" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	147.07	22.81
			For Single Layer Of Felt Finish, Add	8.89	
			For Work In Restricted Working Space, Add	18.72	
22 07 19 00-0119			4" Thick Fiberglass Pipe Insulation (22 07 19 00-0001)		
22 07 19 00-0120	LF		1/2" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	28.63	5.81
			For Single Layer Of Felt Finish, Add	1.36	
			For Work In Restricted Working Space, Add	4.72	
22 07 19 00-0121	LF		3/4" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	29.09	5.81
			For Single Layer Of Felt Finish, Add	1.40	
			For Work In Restricted Working Space, Add	4.72	
22 07 19 00-0122	LF		1" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	30.31	5.81
			For Single Layer Of Felt Finish, Add	1.50	
			For Work In Restricted Working Space, Add	4.80	
22 07 19 00-0123	LF		1-1/4" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	31.31	5.91
			For Single Layer Of Felt Finish, Add	1.59	
			For Work In Restricted Working Space, Add	4.85	
22 07 19 00-0124	LF		1-1/2" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	32.64	6.14
			For Single Layer Of Felt Finish, Add	1.68	
			For Work In Restricted Working Space, Add	5.00	
22 07 19 00-0125	LF		2" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	33.85	6.35
			For Single Layer Of Felt Finish, Add	1.75	
			For Work In Restricted Working Space, Add	5.16	
22 07 19 00-0126	LF		2-1/2" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	35.46	6.35
			For Single Layer Of Felt Finish, Add	1.89	
			For Work In Restricted Working Space, Add	5.24	
22 07 19 00-0127	LF		3" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	37.27	6.67
			For Single Layer Of Felt Finish, Add	2.01	
			For Work In Restricted Working Space, Add	5.43	
22 07 19 00-0128	LF		4" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	41.40	6.99
			For Single Layer Of Felt Finish, Add	2.34	
			For Work In Restricted Working Space, Add	5.73	
22 07 19 00-0129	LF		6" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	47.48	7.96
			For Single Layer Of Felt Finish, Add	2.71	
			For Work In Restricted Working Space, Add	6.51	
22 07 19 00-0130	LF		8" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	64.29	8.60
			For Single Layer Of Felt Finish, Add	4.21	
			For Work In Restricted Working Space, Add	7.25	
22 07 19 00-0131	LF		10" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	77.03	10.22
			For Single Layer Of Felt Finish, Add	5.15	
			For Work In Restricted Working Space, Add	8.38	
22 07 19 00-0132	LF		12" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	86.99	12.69
			For Single Layer Of Felt Finish, Add	5.49	
			For Work In Restricted Working Space, Add	10.41	
22 07 19 00-0133	LF		14" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	98.66	13.87
			For Single Layer Of Felt Finish, Add	6.38	
			For Work In Restricted Working Space, Add	11.37	
22 07 19 00-0134	LF		16" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	115.40	17.75
			For Single Layer Of Felt Finish, Add	7.03	
			For Work In Restricted Working Space, Add	14.54	
22 07 19 00-0135	LF		18" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	124.21	18.61
			For Single Layer Of Felt Finish, Add	7.71	
			For Work In Restricted Working Space, Add	15.23	
22 07 19 00-0136	LF		20" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	139.09	21.30
			For Single Layer Of Felt Finish, Add	8.50	
			For Work In Restricted Working Space, Add	17.43	
22 07 19 00-0137	LF		24" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	165.48	25.71
			For Single Layer Of Felt Finish, Add	10.00	
			For Work In Restricted Working Space, Add	21.06	
22 07 19 00-0138	LF		26" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	188.45	30.33
			For Single Layer Of Felt Finish, Add	11.10	
			For Work In Restricted Working Space, Add	24.82	
22 07 19 00-0139	LF		28" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	211.65	35.71
			For Single Layer Of Felt Finish, Add	11.99	
			For Work In Restricted Working Space, Add	29.23	
22 07 19 00-0140	LF		30" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	237.63	42.17
			For Single Layer Of Felt Finish, Add	12.63	
			For Work In Restricted Working Space, Add	34.63	
22 07 19 00-0141	LF		36" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	285.59	53.61
			For Single Layer Of Felt Finish, Add	14.58	
			For Work In Restricted Working Space, Add	44.03	
22 07 19 00-0142	LF		42" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ).....	333.56	65.29
			For Single Layer Of Felt Finish, Add	16.32	
			For Work In Restricted Working Space, Add	53.43	

22 Plumbing**22 07 Plumbing Insulation****22 07 19 Plumbing Piping Insulation**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0143	LF	44" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ) <i>For Single Layer Of Felt Finish, Add</i>	357.76 16.95	71.75
		<i>For Work In Restricted Working Space, Add</i>	58.89	
22 07 19 00-0144	LF	46" Diameter Pipe, 4" Thick, Fiberglass Insulation With All Service Jacket (ASJ) <i>For Single Layer Of Felt Finish, Add</i>	379.71 17.64	77.23
		<i>For Work In Restricted Working Space, Add</i>	63.53	
22 07 19 00-0145		Foamglas (Cellular Glass) Pipe Insulation, Rigid, Closed Cell (22 07 19) Note: Includes adhesive. Excludes fittings (a location requiring purchase of an insulation fitting or cutting and fitting straight sections, excludes couplings, plugs, etc.). For fittings/valves up to 3" add 2 LF for each fitting/valve or 3 LF for each flanged/grooved joint. For fittings/valves >3" add 3 LF for each fitting/valve or 4 LF for each flanged/grooved joint.		
22 07 19 00-0146		1" Thick Foamglas Pipe Insulation (22 07 19 00-0145)		
22 07 19 00-0147	LF	1/2" Diameter Pipe, 1" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	18.96 4.77	5.25
22 07 19 00-0148	LF	3/4" Diameter Pipe, 1" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	19.74 4.77	5.25
22 07 19 00-0149	LF	1" Diameter Pipe, 1" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	20.76 4.84	5.33
22 07 19 00-0150	LF	1-1/4" Diameter Pipe, 1" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	21.25 4.91	5.40
22 07 19 00-0151	LF	1-1/2" Diameter Pipe, 1" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	22.01 4.98	5.47
22 07 19 00-0152	LF	2" Diameter Pipe, 1" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	23.46 5.12	5.62
22 07 19 00-0153	LF	2-1/2" Diameter Pipe, 1" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	25.27 5.33	5.86
22 07 19 00-0154	LF	3" Diameter Pipe, 1" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	27.25 5.47	6.01
22 07 19 00-0155	LF	4" Diameter Pipe, 1" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	31.50 5.88	6.47
22 07 19 00-0156	LF	6" Diameter Pipe, 1" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	40.11 6.63	7.29
22 07 19 00-0157		1-1/2" Thick Foamglas Pipe Insulation (22 07 19 00-0145)		
22 07 19 00-0158	LF	1/2" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	22.47 5.12	5.82
22 07 19 00-0159	LF	3/4" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	22.96 5.12	5.82
22 07 19 00-0160	LF	1" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	23.69 5.19	5.89
22 07 19 00-0161	LF	1-1/4" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	24.26 5.25	5.97
22 07 19 00-0162	LF	1-1/2" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	24.81 5.33	6.05
22 07 19 00-0163	LF	2" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	26.90 5.50	6.25
22 07 19 00-0164	LF	2-1/2" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	30.48 5.71	6.49
22 07 19 00-0165	LF	3" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	33.65 5.88	6.68
22 07 19 00-0166	LF	4" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	38.13 6.26	7.11
22 07 19 00-0167	LF	6" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	44.91 7.09	8.06
22 07 19 00-0168	LF	8" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	50.23 7.90	8.99
22 07 19 00-0169	LF	10" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	60.95 9.11	10.36
22 07 19 00-0170	LF	12" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	72.31 11.33	12.87
22 07 19 00-0171	LF	14" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	80.35 12.31	13.54
22 07 19 00-0172	LF	16" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	88.45 13.75	15.12
22 07 19 00-0173	LF	18" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	100.21 16.26	17.89
22 07 19 00-0174	LF	20" Diameter Pipe, 1-1/2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	111.96 18.01	19.81
22 07 19 00-0175	LF	24" Diameter Pipe, 1-1/2" Thick Fiberglass Insulation <i>For Work In Restricted Working Space, Add</i>	139.90 19.95	21.94
22 07 19 00-0176		2" Thick Foamglas Pipe Insulation (22 07 19 00-0145)		
22 07 19 00-0177	LF	1/2" Diameter Pipe, 2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	25.28 5.47	6.01
22 07 19 00-0178	LF	3/4" Diameter Pipe, 2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	26.04 5.47	6.01
22 07 19 00-0179	LF	1" Diameter Pipe, 2" Thick Foamglas Insulation <i>For Work In Restricted Working Space, Add</i>	27.01 5.53	6.07



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0180	LF	1-1/4"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	28.45 5.60	6.17
22 07 19 00-0181	LF	1-1/2"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	29.89 5.67	6.24
22 07 19 00-0182	LF	2"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	33.43 5.88	6.47
22 07 19 00-0183	LF	2-1/2"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	35.07 6.09	6.70
22 07 19 00-0184	LF	3"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	37.64 6.29	6.92
22 07 19 00-0185	LF	4"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	42.40 6.64	7.30
22 07 19 00-0186	LF	6"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	50.74 7.54	8.29
22 07 19 00-0187	LF	8"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	56.49 8.41	9.25
22 07 19 00-0188	LF	10"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	68.78 9.70	10.66
22 07 19 00-0189	LF	12"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	85.20 12.05	13.25
22 07 19 00-0190	LF	14"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	91.00 13.15	14.47
22 07 19 00-0191	LF	16"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	107.50 16.81	18.49
22 07 19 00-0192	LF	18"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	117.24 17.64	19.41
22 07 19 00-0193	LF	20"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	129.66 20.17	22.19
22 07 19 00-0194	LF	24"	Diameter Pipe, 2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	162.71 24.38	26.81
22 07 19 00-0195			2-1/2" Thick Foamglas Pipe Insulation (22 07 19 00-0145)		
22 07 19 00-0196	LF	1/2"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	30.74 5.93	6.52
22 07 19 00-0197	LF	3/4"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	32.03 5.92	6.51
22 07 19 00-0198	LF	1"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	33.66 6.02	6.62
22 07 19 00-0199	LF	1-1/4"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	35.11 6.06	6.67
22 07 19 00-0200	LF	1-1/2"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	36.58 6.11	6.72
22 07 19 00-0201	LF	2"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	39.23 6.36	6.99
22 07 19 00-0202	LF	2-1/2"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	41.75 6.58	7.24
22 07 19 00-0203	LF	3"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	45.37 6.81	7.49
22 07 19 00-0204	LF	4"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	50.89 7.18	7.90
22 07 19 00-0205	LF	6"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	60.87 8.16	8.99
22 07 19 00-0206	LF	8"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	67.83 9.10	10.01
22 07 19 00-0207	LF	10"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	77.38 10.49	11.54
22 07 19 00-0208	LF	12"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	96.36 13.04	14.35
22 07 19 00-0209	LF	14"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	100.42 14.24	15.67
22 07 19 00-0210	LF	16"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	118.28 18.20	20.02
22 07 19 00-0211	LF	18"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	128.68 19.11	21.01
22 07 19 00-0212	LF	20"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	147.97 21.84	24.02
22 07 19 00-0213	LF	24"	Diameter Pipe, 2-1/2" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	185.40 26.39	29.03
22 07 19 00-0214			3" Thick Foamglas Pipe Insulation (22 07 19 00-0145)		
22 07 19 00-0215	LF	1/2"	Diameter Pipe, 3" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	37.22 6.30	6.93
22 07 19 00-0216	LF	3/4"	Diameter Pipe, 3" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	38.00 6.30	6.93
22 07 19 00-0217	LF	1"	Diameter Pipe, 3" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	39.12 6.40	7.04
22 07 19 00-0218	LF	1-1/4"	Diameter Pipe, 3" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	40.05 6.45	7.09
22 07 19 00-0219	LF	1-1/2"	Diameter Pipe, 3" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	41.02 6.50	7.15
22 07 19 00-0220	LF	2"	Diameter Pipe, 3" Thick Foamglas Insulation..... <i>For Work In Restricted Working Space, Add</i>	44.11 6.77	7.44

22 Plumbing**22 07 Plumbing Insulation****22 07 19 Plumbing Piping Insulation**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0221	LF	2-1/2" Diameter Pipe, 3" Thick Foamglas Insulation	47.07	7.71
		<i>For Work In Restricted Working Space, Add</i>	7.00	
22 07 19 00-0222	LF	3" Diameter Pipe, 3" Thick Foamglas Insulation	53.56	7.97
		<i>For Work In Restricted Working Space, Add</i>	7.25	
22 07 19 00-0223	LF	4" Diameter Pipe, 3" Thick Foamglas Insulation	61.19	8.40
		<i>For Work In Restricted Working Space, Add</i>	7.64	
22 07 19 00-0224	LF	6" Diameter Pipe, 3" Thick Foamglas Insulation	66.97	9.55
		<i>For Work In Restricted Working Space, Add</i>	8.68	
22 07 19 00-0225	LF	8" Diameter Pipe, 3" Thick Foamglas Insulation	75.66	10.65
		<i>For Work In Restricted Working Space, Add</i>	9.68	
22 07 19 00-0226	LF	10" Diameter Pipe, 3" Thick Foamglas Insulation	90.31	12.28
		<i>For Work In Restricted Working Space, Add</i>	11.16	
22 07 19 00-0227	LF	12" Diameter Pipe, 3" Thick Foamglas Insulation	104.79	15.26
		<i>For Work In Restricted Working Space, Add</i>	13.88	
22 07 19 00-0228	LF	14" Diameter Pipe, 3" Thick Foamglas Insulation	112.16	16.66
		<i>For Work In Restricted Working Space, Add</i>	15.15	
22 07 19 00-0229	LF	16" Diameter Pipe, 3" Thick Foamglas Insulation	133.75	21.30
		<i>For Work In Restricted Working Space, Add</i>	19.36	
22 07 19 00-0230	LF	18" Diameter Pipe, 3" Thick Foamglas Insulation	143.23	22.36
		<i>For Work In Restricted Working Space, Add</i>	20.33	
22 07 19 00-0231	LF	20" Diameter Pipe, 3" Thick Foamglas Insulation	167.93	25.56
		<i>For Work In Restricted Working Space, Add</i>	23.24	
22 07 19 00-0232	LF	24" Diameter Pipe, 3" Thick Foamglas Insulation	205.33	30.89
		<i>For Work In Restricted Working Space, Add</i>	28.07	
22 07 19 00-0233 3-1/2" Thick Foamglas Pipe Insulation (22 07 19 00-0145)				
22 07 19 00-0234	LF	1/2" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	44.82	8.40
		<i>For Work In Restricted Working Space, Add</i>	7.64	
22 07 19 00-0235	LF	3/4" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	45.80	8.40
		<i>For Work In Restricted Working Space, Add</i>	7.64	
22 07 19 00-0236	LF	1" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	46.95	8.45
		<i>For Work In Restricted Working Space, Add</i>	7.69	
22 07 19 00-0237	LF	1-1/4" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	48.09	8.51
		<i>For Work In Restricted Working Space, Add</i>	7.74	
22 07 19 00-0238	LF	1-1/2" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	49.40	8.61
		<i>For Work In Restricted Working Space, Add</i>	7.83	
22 07 19 00-0239	LF	2" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	54.43	8.92
		<i>For Work In Restricted Working Space, Add</i>	8.10	
22 07 19 00-0240	LF	2-1/2" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	59.50	9.23
		<i>For Work In Restricted Working Space, Add</i>	8.39	
22 07 19 00-0241	LF	3" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	62.87	9.55
		<i>For Work In Restricted Working Space, Add</i>	8.68	
22 07 19 00-0242	LF	4" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	67.36	10.10
		<i>For Work In Restricted Working Space, Add</i>	9.18	
22 07 19 00-0243	LF	6" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	77.56	11.46
		<i>For Work In Restricted Working Space, Add</i>	10.42	
22 07 19 00-0244	LF	8" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	88.23	12.76
		<i>For Work In Restricted Working Space, Add</i>	11.61	
22 07 19 00-0245	LF	10" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	105.60	14.74
		<i>For Work In Restricted Working Space, Add</i>	13.40	
22 07 19 00-0246	LF	12" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	124.66	18.31
		<i>For Work In Restricted Working Space, Add</i>	16.65	
22 07 19 00-0247	LF	14" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	129.91	20.00
		<i>For Work In Restricted Working Space, Add</i>	18.18	
22 07 19 00-0248	LF	16" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	155.50	25.56
		<i>For Work In Restricted Working Space, Add</i>	23.24	
22 07 19 00-0249	LF	18" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	171.09	26.84
		<i>For Work In Restricted Working Space, Add</i>	24.40	
22 07 19 00-0250	LF	20" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	194.77	30.69
		<i>For Work In Restricted Working Space, Add</i>	27.90	
22 07 19 00-0251	LF	24" Diameter Pipe, 3-1/2" Thick Foamglas Insulation	239.27	37.05
		<i>For Work In Restricted Working Space, Add</i>	33.69	
22 07 19 00-0252 4" Thick Foamglas Pipe Insulation (22 07 19 00-0145)				
22 07 19 00-0253	LF	1/2" Diameter Pipe, 4" Thick Foamglas Insulation	54.57	10.33
		<i>For Work In Restricted Working Space, Add</i>	9.38	
22 07 19 00-0254	LF	3/4" Diameter Pipe, 4" Thick Foamglas Insulation	55.83	10.33
		<i>For Work In Restricted Working Space, Add</i>	9.38	
22 07 19 00-0255	LF	1" Diameter Pipe, 4" Thick Foamglas Insulation	57.63	10.50
		<i>For Work In Restricted Working Space, Add</i>	9.55	
22 07 19 00-0256	LF	1-1/4" Diameter Pipe, 4" Thick Foamglas Insulation	59.27	10.63
		<i>For Work In Restricted Working Space, Add</i>	9.66	
22 07 19 00-0257	LF	1-1/2" Diameter Pipe, 4" Thick Foamglas Insulation	61.54	10.96
		<i>For Work In Restricted Working Space, Add</i>	9.96	
22 07 19 00-0258	LF	2" Diameter Pipe, 4" Thick Foamglas Insulation	66.57	11.29
		<i>For Work In Restricted Working Space, Add</i>	10.27	
22 07 19 00-0259	LF	2-1/2" Diameter Pipe, 4" Thick Foamglas Insulation	71.08	11.47
		<i>For Work In Restricted Working Space, Add</i>	10.43	
22 07 19 00-0260	LF	3" Diameter Pipe, 4" Thick Foamglas Insulation	74.65	11.90
		<i>For Work In Restricted Working Space, Add</i>	10.82	
22 07 19 00-0261	LF	4" Diameter Pipe, 4" Thick Foamglas Insulation	81.54	13.27
		<i>For Work In Restricted Working Space, Add</i>	12.06	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0262 LF 6" Diameter Pipe, 4" Thick Foamglas Insulation For Work In Restricted Working Space, Add	94.50 12.95	14.24
22 07 19 00-0263 LF 8" Diameter Pipe, 4" Thick Foamglas Insulation For Work In Restricted Working Space, Add	106.80 14.04	15.44
22 07 19 00-0264 LF 10" Diameter Pipe, 4" Thick Foamglas Insulation For Work In Restricted Working Space, Add	122.20 16.68	18.36
22 07 19 00-0265 LF 12" Diameter Pipe, 4" Thick Foamglas Insulation For Work In Restricted Working Space, Add	142.55 20.72	22.80
22 07 19 00-0266 LF 14" Diameter Pipe, 4" Thick Foamglas Insulation For Work In Restricted Working Space, Add	154.99 22.64	24.89
22 07 19 00-0267 LF 16" Diameter Pipe, 4" Thick Foamglas Insulation For Work In Restricted Working Space, Add	183.58 28.94	31.82
22 07 19 00-0268 LF 18" Diameter Pipe, 4" Thick Foamglas Insulation For Work In Restricted Working Space, Add	204.60 30.32	33.36
22 07 19 00-0269 LF 20" Diameter Pipe, 4" Thick Foamglas Insulation For Work In Restricted Working Space, Add	229.22 34.71	38.17
22 07 19 00-0270 LF 24" Diameter Pipe, 4" Thick Foamglas Insulation For Work In Restricted Working Space, Add	291.11 41.93	46.12
22 07 19 00-0271 Polyisocyanurate Pipe Insulation (22 07 19) Note: Dow Trymer insulation with Saran vapor wrap. Excludes fittings (a location requiring purchase of an insulation fitting or cutting and fitting straight sections, excludes couplings, plugs, etc.). For fittings/valves up to 3" add 2 LF for each fitting/valve or 3 LF for each flanged/grooved joint. For fittings/valves >3" add 3 LF for each fitting/valve or 4 LF for each flanged/grooved joint.		
22 07 19 00-0272 1/2" Thick Polyisocyanurate Pipe Insulation (22 07 19 00-0271)		
22 07 19 00-0273 LF 1/2" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	9.98	2.48
22 07 19 00-0274 LF 3/4" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	11.10	2.58
22 07 19 00-0275 LF 1" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	11.71	2.80
22 07 19 00-0276 LF 1-1/4" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	12.35	2.90
22 07 19 00-0277 LF 1-1/2" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	12.75	2.90
22 07 19 00-0278 LF 2" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	13.49	3.01
22 07 19 00-0279 LF 2-1/2" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	14.50	3.12
22 07 19 00-0280 LF 3" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	15.47	3.33
22 07 19 00-0281 LF 4" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	18.22	3.98
22 07 19 00-0282 LF 6" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	21.90	4.51
22 07 19 00-0283 LF 8" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	25.94	5.27
22 07 19 00-0284 LF 10" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	29.32	5.70
22 07 19 00-0285 LF 12" Diameter Pipe, 1/2" Thick Polyisocyanurate Insulation	34.78	6.99
22 07 19 00-0286 1" Thick Polyisocyanurate Pipe Insulation (22 07 19 00-0271)		
22 07 19 00-0287 LF 1/2" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	11.83	2.58
22 07 19 00-0288 LF 3/4" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	13.40	2.80
22 07 19 00-0289 LF 1" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	14.15	2.90
22 07 19 00-0290 LF 1-1/4" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	14.96	3.01
22 07 19 00-0291 LF 1-1/2" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	15.63	3.12
22 07 19 00-0292 LF 2" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	16.60	3.12
22 07 19 00-0293 LF 2-1/2" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	17.90	3.33
22 07 19 00-0294 LF 3" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	19.26	3.55
22 07 19 00-0295 LF 4" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	22.76	4.19
22 07 19 00-0296 LF 6" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	28.80	5.27
22 07 19 00-0297 LF 8" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	34.64	6.24
22 07 19 00-0298 LF 10" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	39.71	6.99
22 07 19 00-0299 LF 12" Diameter Pipe, 1" Thick Polyisocyanurate Insulation	44.92	7.85
22 07 19 00-0300 1-1/2" Thick Polyisocyanurate Pipe Insulation (22 07 19 00-0271)		
22 07 19 00-0301 LF 3/4" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	15.22	2.90
22 07 19 00-0302 LF 1" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	16.11	3.01
22 07 19 00-0303 LF 1-1/4" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	17.11	3.12
22 07 19 00-0304 LF 1-1/2" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	17.91	3.22
22 07 19 00-0305 LF 2" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	19.08	3.33
22 07 19 00-0306 LF 2-1/2" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	20.71	3.55
22 07 19 00-0307 LF 3" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	22.31	3.66
22 07 19 00-0308 LF 4" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	26.40	4.51
22 07 19 00-0309 LF 6" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	33.78	5.70
22 07 19 00-0310 LF 8" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	41.08	6.99
22 07 19 00-0311 LF 10" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	47.36	7.85
22 07 19 00-0312 LF 12" Diameter Pipe, 1-1/2" Thick Polyisocyanurate Insulation	52.37	8.39
22 07 19 00-0313 2" Thick Polyisocyanurate Pipe Insulation (22 07 19 00-0271)		
22 07 19 00-0314 LF 3/4" Diameter Pipe, 2" Thick Polyisocyanurate Insulation	19.80	3.01
22 07 19 00-0315 LF 1" Diameter Pipe, 2" Thick Polyisocyanurate Insulation	21.06	3.12
22 07 19 00-0316 LF 1-1/4" Diameter Pipe, 2" Thick Polyisocyanurate Insulation	22.18	3.33
22 07 19 00-0317 LF 1-1/2" Diameter Pipe, 2" Thick Polyisocyanurate Insulation	23.14	3.33
22 07 19 00-0318 LF 2" Diameter Pipe, 2" Thick Polyisocyanurate Insulation	24.02	3.55
22 07 19 00-0319 LF 2-1/2" Diameter Pipe, 2" Thick Polyisocyanurate Insulation	26.05	3.77
22 07 19 00-0320 LF 3" Diameter Pipe, 2" Thick Polyisocyanurate Insulation	27.43	3.98
22 07 19 00-0321 LF 4" Diameter Pipe, 2" Thick Polyisocyanurate Insulation	32.64	4.84



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0322	LF	6" Diameter Pipe, 2" Thick Polyisocyanurate Insulation.....	39.62	6.24
22 07 19 00-0323	LF	8" Diameter Pipe, 2" Thick Polyisocyanurate Insulation.....	51.94	7.85
22 07 19 00-0324	LF	10" Diameter Pipe, 2" Thick Polyisocyanurate Insulation.....	55.05	9.04
22 07 19 00-0325	LF	12" Diameter Pipe, 2" Thick Polyisocyanurate Insulation.....	60.01	9.68
22 07 19 00-0326		Flexible Polyethylene Tubing Closed Cell Foam Insulation (22 07 19) Note: UV resistant standard temperature (-90 Degree F To +212 Degree F). For elbow fittings/valves add 1 LF for each fitting/valve, for tee fittings add 2 LF for each fitting.		
22 07 19 00-0327		3/8" Wall Flexible Polyethylene Tubing Foam Insulation (22 07 19 00-0326)		
22 07 19 00-0328	LF	1/4" I.D. (3/8" O.D.) Diameter Pipe, 3/8" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	6.96	3.21
		<i>For Work In Restricted Working Space, Add</i>	1.94	
22 07 19 00-0329	LF	3/8" I.D. (1/2" O.D.) Diameter Pipe, 3/8" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	6.97	3.21
		<i>For Work In Restricted Working Space, Add</i>	1.94	
22 07 19 00-0330	LF	1/2" I.D. (5/8" O.D.) Diameter Pipe, 3/8" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	7.26	3.33
		<i>For Work In Restricted Working Space, Add</i>	2.00	
22 07 19 00-0331	LF	3/4" I.D. (7/8" O.D.) Diameter Pipe, 3/8" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	7.56	3.45
		<i>For Work In Restricted Working Space, Add</i>	2.07	
22 07 19 00-0332	LF	1" I.D. (1-1/8" O.D.) Diameter Pipe, 3/8" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	7.87	3.51
		<i>For Work In Restricted Working Space, Add</i>	2.10	
22 07 19 00-0333	LF	1-1/4" I.D. (1-3/8" O.D.) Diameter Pipe, 3/8" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	8.23	3.56
		<i>For Work In Restricted Working Space, Add</i>	2.14	
22 07 19 00-0334	LF	1-1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 3/8" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	8.38	3.56
		<i>For Work In Restricted Working Space, Add</i>	2.15	
22 07 19 00-0335	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 3/8" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	8.80	3.56
		<i>For Work In Restricted Working Space, Add</i>	2.15	
22 07 19 00-0336	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 3/8" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	9.62	3.67
		<i>For Work In Restricted Working Space, Add</i>	2.22	
22 07 19 00-0337	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 3/8" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	9.97	3.74
		<i>For Work In Restricted Working Space, Add</i>	2.25	
22 07 19 00-0338		1/2" Wall Flexible Polyethylene Tubing Foam Insulation (22 07 19 00-0326)		
22 07 19 00-0339	LF	1/4" I.D. (3/8" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	7.75	3.51
		<i>For Work In Restricted Working Space, Add</i>	2.10	
22 07 19 00-0340	LF	3/8" I.D. (1/2" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	7.84	3.51
		<i>For Work In Restricted Working Space, Add</i>	2.12	
22 07 19 00-0341	LF	1/2" I.D. (5/8" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	7.99	3.56
		<i>For Work In Restricted Working Space, Add</i>	2.14	
22 07 19 00-0342	LF	3/4" I.D. (7/8" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	8.16	3.59
		<i>For Work In Restricted Working Space, Add</i>	2.15	
22 07 19 00-0343	LF	1" I.D. (1-1/8" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	8.61	3.67
		<i>For Work In Restricted Working Space, Add</i>	2.20	
22 07 19 00-0344	LF	1-1/4" I.D. (1-3/8" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	8.99	3.74
		<i>For Work In Restricted Working Space, Add</i>	2.24	
22 07 19 00-0345	LF	1-1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	9.44	3.79
		<i>For Work In Restricted Working Space, Add</i>	2.27	
22 07 19 00-0346	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	9.98	3.84
		<i>For Work In Restricted Working Space, Add</i>	2.30	
22 07 19 00-0347	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	10.92	3.96
		<i>For Work In Restricted Working Space, Add</i>	2.37	
22 07 19 00-0348	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	11.91	4.01
		<i>For Work In Restricted Working Space, Add</i>	2.41	
22 07 19 00-0349	LF	3-1/2" I.D. (3-5/8" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	12.84	4.07
		<i>For Work In Restricted Working Space, Add</i>	2.44	
22 07 19 00-0350	LF	4" I.D. (4-1/8" O.D.) Diameter Pipe, 1/2" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	13.40	4.12
		<i>For Work In Restricted Working Space, Add</i>	2.48	
22 07 19 00-0351		3/4" Wall Flexible Polyethylene Tubing Foam Insulation (22 07 19 00-0326)		
22 07 19 00-0352	LF	1/4" I.D. (3/8" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	8.69	3.79
		<i>For Work In Restricted Working Space, Add</i>	2.27	
22 07 19 00-0353	LF	3/8" I.D. (1/2" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	8.79	3.84
		<i>For Work In Restricted Working Space, Add</i>	2.30	
22 07 19 00-0354	LF	1/2" I.D. (5/8" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	9.42	3.96
		<i>For Work In Restricted Working Space, Add</i>	2.37	
22 07 19 00-0355	LF	3/4" I.D. (7/8" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	9.69	4.01
		<i>For Work In Restricted Working Space, Add</i>	2.41	
22 07 19 00-0356	LF	1" I.D. (1-1/8" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	10.47	4.12
		<i>For Work In Restricted Working Space, Add</i>	2.48	
22 07 19 00-0357	LF	1-1/4" I.D. (1-3/8" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	11.29	4.18
		<i>For Work In Restricted Working Space, Add</i>	2.51	
22 07 19 00-0358	LF	1-1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	11.66	4.20
		<i>For Work In Restricted Working Space, Add</i>	2.52	
22 07 19 00-0359	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	13.18	4.24
		<i>For Work In Restricted Working Space, Add</i>	2.54	
22 07 19 00-0360	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	15.28	4.34
		<i>For Work In Restricted Working Space, Add</i>	2.61	
22 07 19 00-0361	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	15.38	4.41
		<i>For Work In Restricted Working Space, Add</i>	2.64	
22 07 19 00-0362	LF	3-1/2" I.D. (3-5/8" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation.....	16.89	4.46
		<i>For Work In Restricted Working Space, Add</i>	2.68	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0363	LF	4"	1/4" I.D. (4-1/8" O.D.) Diameter Pipe, 3/4" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	17.52 2.71	4.51
22 07 19 00-0364			1" Wall Flexible Polyethylene Tubing Foam Insulation (22 07 19 00-0326)		
22 07 19 00-0365	LF	1/4"	1/4" I.D. (3/8" O.D.) Diameter Pipe, 1" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	9.94 2.51	4.18
22 07 19 00-0366	LF	3/8"	1/2" I.D. (1/2" O.D.) Diameter Pipe, 1" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	10.21 2.54	4.24
22 07 19 00-0367	LF	1/2"	1/2" I.D. (5/8" O.D.) Diameter Pipe, 1" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	11.12 2.61	4.34
22 07 19 00-0368	LF	3/4"	1/2" I.D. (7/8" O.D.) Diameter Pipe, 1" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	11.38 2.64	4.41
22 07 19 00-0369	LF	1"	1/2" I.D. (1-1/8" O.D.) Diameter Pipe, 1" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	12.76 2.71	4.51
22 07 19 00-0370	LF	1-1/4"	1/2" I.D. (1-3/8" O.D.) Diameter Pipe, 1" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	13.42 2.73	4.63
22 07 19 00-0371	LF	1-1/2"	1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 1" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	13.69 2.81	4.69
22 07 19 00-0372	LF	2"	1/2" I.D. (2-1/8" O.D.) Diameter Pipe, 1" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	15.04 2.85	4.74
22 07 19 00-0373	LF	2-1/2"	1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 1" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	15.97 2.91	4.87
22 07 19 00-0374	LF	3"	1/2" I.D. (3-1/8" O.D.) Diameter Pipe, 1" Wall Polyethylene Tubing Flexible Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	16.80 2.95	4.92
22 07 19 00-0375			Flexible Elastomeric Tubing Closed Cell Foam Insulation (22 07 19)		
			Note: For elbow fittings/valves add 1 LF for each fitting/valve, for tee fittings add 2 LF for each fitting.		
22 07 19 00-0376			3/8" Wall Flexible Elastomeric Tubing Foam Insulation (22 07 19 00-0375)		
22 07 19 00-0377	LF	1/4"	1/4" I.D. (3/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	7.22 1.94	3.21
22 07 19 00-0378	LF	3/8"	1/2" I.D. (1/2" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	7.35 1.94	3.21
22 07 19 00-0379	LF	1/2"	1/2" I.D. (5/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	7.65 2.00	3.33
22 07 19 00-0380	LF	5/8"	1/2" I.D. (3/4" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	7.83 2.03	3.38
22 07 19 00-0381	LF	3/4"	1/2" I.D. (7/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	8.01 2.07	3.45
22 07 19 00-0382	LF	1"	1/2" I.D. (1-1/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	8.28 2.10	3.51
22 07 19 00-0383	LF	1-1/4"	1/2" I.D. (1-3/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	8.51 2.14	3.56
22 07 19 00-0384	LF	1-1/2"	1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	8.74 2.15	3.56
22 07 19 00-0385	LF	1-1/2"	IPS (1-7/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	8.94 2.15	3.56
22 07 19 00-0386	LF	2"	1/2" I.D. (2-1/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	9.17 2.17	3.62
22 07 19 00-0387	LF	2"	IPS (2-3/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	9.46 2.20	3.67
22 07 19 00-0388	LF	2-1/2"	1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	9.73 2.22	3.67
22 07 19 00-0389	LF	2-1/2"	IPS (2-7/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	9.91 2.24	3.74
22 07 19 00-0390	LF	3"	1/2" I.D. (3-1/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	10.18 2.25	3.74
22 07 19 00-0391	LF	3-1/2"	1/2" I.D. (3-5/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	10.78 2.27	3.79
22 07 19 00-0392	LF	4"	1/2" I.D. (4-1/8" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	11.46 2.30	3.84
22 07 19 00-0393	LF	4"	IPS (4-1/2" O.D.) Diameter Pipe, 3/8" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	12.24 2.32	3.86
22 07 19 00-0394			1/2" Wall Flexible Elastomeric Tubing Foam Insulation (22 07 19 00-0375)		
22 07 19 00-0395	LF	1/4"	1/4" I.D. (3/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	8.18 2.10	3.51
22 07 19 00-0396	LF	3/8"	1/2" I.D. (1/2" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	8.29 2.12	3.51
22 07 19 00-0397	LF	1/2"	1/2" I.D. (5/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	8.43 2.14	3.56
22 07 19 00-0398	LF	5/8"	1/2" I.D. (3/4" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	8.62 2.15	3.56
22 07 19 00-0399	LF	3/4"	1/2" I.D. (7/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	8.77 2.15	3.56
22 07 19 00-0400	LF	1"	1/2" I.D. (1-1/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	9.13 2.20	3.67
22 07 19 00-0401	LF	1-1/4"	1/2" I.D. (1-3/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	9.49 2.24	3.74
22 07 19 00-0402	LF	1-1/2"	1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation..... <i>For Work In Restricted Working Space, Add</i>	9.80 2.27	3.79

22 Plumbing**22 07 Plumbing Insulation****22 07 19 Plumbing Piping Insulation**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0403	LF	1-1/2" IPS (1-7/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	10.12 2.29	3.82
22 07 19 00-0404	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	10.37 2.30	3.84
22 07 19 00-0405	LF	2" IPS (2-3/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	11.37 2.34	3.91
22 07 19 00-0406	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	11.97 2.37	3.96
22 07 19 00-0407	LF	2-1/2" IPS (2-7/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	12.41 2.39	3.99
22 07 19 00-0408	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	12.79 2.41	4.01
22 07 19 00-0409	LF	3" IPS (3-1/2" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	13.06 2.42	4.04
22 07 19 00-0410	LF	3-1/2" I.D. (3-5/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	13.30 2.44	4.07
22 07 19 00-0411	LF	4" I.D. (4-1/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	14.44 2.48	4.12
22 07 19 00-0412	LF	4" IPS (4-1/2" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	14.70 2.49	4.15
22 07 19 00-0413	LF	5" I.D. (5-9/16" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	15.82 2.51	4.18
22 07 19 00-0414	LF	6" IPS (6-5/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	17.12 2.57	4.29
22 07 19 00-0415	LF	8" IPS (8-5/8" O.D.) Diameter Pipe, 1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	18.58 2.64	4.41
22 07 19 00-0416 3/4" Wall Flexible Elastomeric Tubing Foam Insulation (22 07 19 00-0375)				
22 07 19 00-0417	LF	1/4" I.D. (3/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	9.46 2.27	3.79
22 07 19 00-0418	LF	3/8" I.D. (1/2" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	9.73 2.30	3.84
22 07 19 00-0419	LF	1/2" I.D. (5/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	10.14 2.37	3.96
22 07 19 00-0420	LF	5/8" I.D. (3/4" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	10.39 2.39	3.99
22 07 19 00-0421	LF	3/4" I.D. (7/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	10.50 2.41	4.01
22 07 19 00-0422	LF	1" I.D. (1-1/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	11.10 2.48	4.12
22 07 19 00-0423	LF	1-1/4" I.D. (1-3/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	11.59 2.51	4.18
22 07 19 00-0424	LF	1-1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	12.07 2.54	4.24
22 07 19 00-0425	LF	1-1/2" IPS (1-7/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	12.20 2.54	4.24
22 07 19 00-0426	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	12.40 2.56	4.27
22 07 19 00-0427	LF	2" IPS (2-3/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	12.98 2.58	4.29
22 07 19 00-0428	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	13.29 2.61	4.34
22 07 19 00-0429	LF	2-1/2" IPS (2-7/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	13.95 2.63	4.38
22 07 19 00-0430	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	14.40 2.64	4.41
22 07 19 00-0431	LF	3" IPS (3-1/2" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	15.12 2.66	4.44
22 07 19 00-0432	LF	3-1/2" I.D. (3-5/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	15.39 2.68	4.46
22 07 19 00-0433	LF	4" I.D. (4-1/8" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	16.44 2.71	4.51
22 07 19 00-0434	LF	4" IPS (4-1/2" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	17.28 2.73	4.55
22 07 19 00-0435	LF	5" IPS (5-9/16" O.D.) Diameter Pipe, 3/4" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	18.71 2.75	4.57
22 07 19 00-0436	LF	6" IPS (6-5/8" O.D.) Diameter Pipe, 3/4" Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	20.20 2.78	4.63
22 07 19 00-0437	LF	8" IPS (8-5/8" O.D.) Diameter Pipe, 3/4" Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	22.01 2.85	4.74
22 07 19 00-0438 1" Wall Flexible Elastomeric Tubing Foam Insulation (22 07 19 00-0375)				
22 07 19 00-0439	LF	1/4" I.D. (3/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	11.12 2.51	4.17
22 07 19 00-0440	LF	3/8" I.D. (1/2" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	11.46 2.54	4.24
22 07 19 00-0441	LF	1/2" I.D. (5/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	11.89 2.61	4.34
22 07 19 00-0442	LF	5/8" I.D. (3/4" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	12.26 2.63	4.38
22 07 19 00-0443	LF	3/4" I.D. (7/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	12.58 2.64	4.41



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0444	LF	1" I.D. (1-1/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	13.15 2.71	4.51
22 07 19 00-0445	LF	1-1/4" I.D. (1-3/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	14.03 2.78	4.63
22 07 19 00-0446	LF	1-1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	14.48 2.81	4.63
22 07 19 00-0447	LF	1-1/2" IPS (1-7/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	15.08 2.83	4.69
22 07 19 00-0448	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	15.30 2.85	4.74
22 07 19 00-0449	LF	2" IPS (2-3/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	16.61 2.88	4.81
22 07 19 00-0450	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	17.61 2.91	4.87
22 07 19 00-0451	LF	2-1/2" IPS (2-7/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	18.91 2.93	4.90
22 07 19 00-0452	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	19.28 2.95	4.92
22 07 19 00-0453	LF	3" IPS (3-1/2" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	19.96 2.96	4.95
22 07 19 00-0454	LF	3-1/2" I.D. (3-5/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	20.29 2.98	4.97
22 07 19 00-0455	LF	4" I.D. (4-1/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	22.75 3.05	5.09
22 07 19 00-0456	LF	4" IPS (4-1/2" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	24.43 3.09	5.14
22 07 19 00-0457	LF	5" IPS (5-9/16" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	26.88 3.12	5.20
22 07 19 00-0458	LF	6" IPS (6-5/8" O.D.) Diameter Pipe, 1" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	29.50 3.19	5.31
22 07 19 00-0459 1-1/2" Wall Flexible Elastomeric Tubing Foam Insulation (22 07 19 00-0375)				
22 07 19 00-0460	LF	3/8" I.D. (1/2" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	17.21 2.81	4.67
22 07 19 00-0461	LF	1/2" I.D. (5/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	17.64 2.87	4.78
22 07 19 00-0462	LF	5/8" I.D. (3/4" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	18.03 2.89	4.81
22 07 19 00-0463	LF	3/4" I.D. (7/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	18.41 2.90	4.86
22 07 19 00-0464	LF	1" I.D. (1-1/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	18.92 2.97	4.96
22 07 19 00-0465	LF	1-1/4" I.D. (1-3/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	19.79 3.08	5.14
22 07 19 00-0466	LF	1-1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	21.00 3.11	5.07
22 07 19 00-0467	LF	1-1/2" IPS (1-7/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	22.06 3.15	5.19
22 07 19 00-0468	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	22.71 3.19	5.31
22 07 19 00-0469	LF	2" IPS (2-3/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	24.75 3.22	5.38
22 07 19 00-0470	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	26.66 3.25	5.44
22 07 19 00-0471	LF	2-1/2" IPS (2-7/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	27.57 3.27	5.46
22 07 19 00-0472	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	28.47 3.29	5.47
22 07 19 00-0473	LF	3" IPS (3-1/2" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	29.52 3.30	5.51
22 07 19 00-0474	LF	3-1/2" I.D. (3-5/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	30.19 3.32	5.53
22 07 19 00-0475	LF	4" I.D. (4-1/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	33.78 3.43	5.73
22 07 19 00-0476	LF	4" IPS (4-1/2" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	35.71 3.49	5.82
22 07 19 00-0477	LF	5" IPS (5-9/16" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	40.39 3.54	5.90
22 07 19 00-0478	LF	6" IPS (6-5/8" O.D.) Diameter Pipe, 1-1/2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	45.03 3.65	6.08
22 07 19 00-0479 2" Wall Flexible Elastomeric Tubing Foam Insulation (22 07 19 00-0375)				
22 07 19 00-0480	LF	3/8" I.D. (1/2" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	25.12 3.10	5.17
22 07 19 00-0481	LF	1/2" I.D. (5/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	26.12 3.16	5.24
22 07 19 00-0482	LF	5/8" I.D. (3/4" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	27.87 3.18	5.28
22 07 19 00-0483	LF	3/4" I.D. (7/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	28.47 3.19	5.33
22 07 19 00-0484	LF	1" I.D. (1-1/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation <i>For Work In Restricted Working Space, Add</i>	29.93 3.25	5.43



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0485	LF	1-1/4" I.D. (1-3/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	31.72	5.69	
		For Work In Restricted Working Space, Add	3.41		
22 07 19 00-0486	LF	1-1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	32.78	5.55	
		For Work In Restricted Working Space, Add	3.43		
22 07 19 00-0487	LF	1-1/2" IPS (1-7/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	34.68	5.74	
		For Work In Restricted Working Space, Add	3.50		
22 07 19 00-0488	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	36.51	5.93	
		For Work In Restricted Working Space, Add	3.57		
22 07 19 00-0489	LF	2" IPS (2-3/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	37.72	6.01	
		For Work In Restricted Working Space, Add	3.60		
22 07 19 00-0490	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	40.23	6.08	
		For Work In Restricted Working Space, Add	3.63		
22 07 19 00-0491	LF	2-1/2" IPS (2-7/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	40.54	6.09	
		For Work In Restricted Working Space, Add	3.65		
22 07 19 00-0492	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	42.88	6.10	
		For Work In Restricted Working Space, Add	3.67		
22 07 19 00-0493	LF	3" IPS (3-1/2" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	44.51	6.14	
		For Work In Restricted Working Space, Add	3.68		
22 07 19 00-0494	LF	3-1/2" I.D. (3-5/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	46.26	6.17	
		For Work In Restricted Working Space, Add	3.70		
22 07 19 00-0495	LF	4" I.D. (4-1/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	52.02	6.46	
		For Work In Restricted Working Space, Add	3.86		
22 07 19 00-0496	LF	4" IPS (4-1/2" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	55.38	6.58	
		For Work In Restricted Working Space, Add	3.95		
22 07 19 00-0497	LF	5" IPS (5-9/16" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	56.37	6.71	
		For Work In Restricted Working Space, Add	4.03		
22 07 19 00-0498	LF	6" IPS (6-5/8" O.D.) Diameter Pipe, 2" Wall Flexible Elastomeric Tubing Closed Cell Foam Insulation	63.33	6.98	
		For Work In Restricted Working Space, Add	4.19		
22 07 19 00-0499		Flexible Polyolefin Tubing Closed Cell Foam Insulation (22 07 19)			
		Note: UV stabilized, work temperature (-110 degree F to +210 degree F) 0 water vapor transmission. For elbow fittings/valves add 1 LF for each fitting/valve, for tee fittings add 2 LF for each fitting.			
22 07 19 00-0500		3/8" Wall Flexible Polyolefin Tubing Foam Insulation (22 07 19 00-0499)			
22 07 19 00-0501	LF	1/4" I.D. (3/8" O.D.) Diameter Pipe, 3/8" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	6.98	3.21	
		For Work In Restricted Working Space, Add	1.94		
22 07 19 00-0502	LF	3/8" I.D. (1/2" O.D.) Diameter Pipe, 3/8" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	7.06	3.21	
		For Work In Restricted Working Space, Add	1.94		
22 07 19 00-0503	LF	1/2" I.D. (5/8" O.D.) Diameter Pipe, 3/8" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	7.32	3.33	
		For Work In Restricted Working Space, Add	2.00		
22 07 19 00-0504	LF	3/4" I.D. (7/8" O.D.) Diameter Pipe, 3/8" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	7.64	3.45	
		For Work In Restricted Working Space, Add	2.07		
22 07 19 00-0505	LF	1" I.D. (1-1/8" O.D.) Diameter Pipe, 3/8" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	7.84	3.51	
		For Work In Restricted Working Space, Add	2.10		
22 07 19 00-0506	LF	1-1/4" I.D. (1-3/8" O.D.) Diameter Pipe, 3/8" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	8.20	3.56	
		For Work In Restricted Working Space, Add	2.14		
22 07 19 00-0507	LF	1-1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 3/8" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	8.48	3.56	
		For Work In Restricted Working Space, Add	2.15		
22 07 19 00-0508	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 3/8" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	8.68	3.67	
		For Work In Restricted Working Space, Add	2.15		
22 07 19 00-0509	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 3/8" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	9.57	3.67	
		For Work In Restricted Working Space, Add	2.22		
22 07 19 00-0510	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 3/8" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	10.35	3.74	
		For Work In Restricted Working Space, Add	2.25		
22 07 19 00-0511	LF	4" I.D. (4-1/8" O.D.) Diameter Pipe, 3/8" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	12.38	3.84	
		For Work In Restricted Working Space, Add	2.30		
22 07 19 00-0512		1/2" Wall Flexible Polyolefin Tubing Foam Insulation (22 07 19 00-0499)			
22 07 19 00-0513	LF	1/4" I.D. (3/8" O.D.) Diameter Pipe, 1/2" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	7.82	3.51	
		For Work In Restricted Working Space, Add	2.10		
22 07 19 00-0514	LF	3/8" I.D. (1/2" O.D.) Diameter Pipe, 1/2" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	7.89	3.51	
		For Work In Restricted Working Space, Add	2.12		
22 07 19 00-0515	LF	1/2" I.D. (5/8" O.D.) Diameter Pipe, 1/2" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	8.06	3.56	
		For Work In Restricted Working Space, Add	2.14		
22 07 19 00-0516	LF	3/4" I.D. (7/8" O.D.) Diameter Pipe, 1/2" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	8.28	3.56	
		For Work In Restricted Working Space, Add	2.15		
22 07 19 00-0517	LF	1" I.D. (1-1/8" O.D.) Diameter Pipe, 1/2" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	8.55	3.67	
		For Work In Restricted Working Space, Add	2.20		
22 07 19 00-0518	LF	1-1/4" I.D. (1-3/8" O.D.) Diameter Pipe, 1/2" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	8.95	3.74	
		For Work In Restricted Working Space, Add	2.24		
22 07 19 00-0519	LF	1-1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 1/2" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	9.39	3.79	
		For Work In Restricted Working Space, Add	2.27		
22 07 19 00-0520	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 1/2" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	9.80	3.84	
		For Work In Restricted Working Space, Add	2.30		
22 07 19 00-0521	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 1/2" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	10.75	3.96	
		For Work In Restricted Working Space, Add	2.37		
22 07 19 00-0522	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 1/2" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	11.60	4.01	
		For Work In Restricted Working Space, Add	2.41		
22 07 19 00-0523	LF	4" I.D. (4-1/8" O.D.) Diameter Pipe, 1/2" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation	13.19	4.12	
		For Work In Restricted Working Space, Add	2.48		



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0524		3/4" Wall Flexible Polyolefin Tubing Foam Insulation (22 07 19 00-0499)		
	LF	1/4" I.D. (3/8" O.D.) Diameter Pipe, 3/4" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	8.81	3.79
		For Work In Restricted Working Space, Add	2.57	
22 07 19 00-0526	LF	3/8" I.D. (1/2" O.D.) Diameter Pipe, 3/4" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	9.10	3.84
		For Work In Restricted Working Space, Add	2.30	
22 07 19 00-0527	LF	1/2" I.D. (5/8" O.D.) Diameter Pipe, 3/4" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	9.48	3.96
		For Work In Restricted Working Space, Add	2.37	
22 07 19 00-0528	LF	3/4" I.D. (7/8" O.D.) Diameter Pipe, 3/4" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	10.06	4.01
		For Work In Restricted Working Space, Add	2.41	
22 07 19 00-0529	LF	1" I.D. (1-1/8" O.D.) Diameter Pipe, 3/4" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	10.59	4.12
		For Work In Restricted Working Space, Add	2.48	
22 07 19 00-0530	LF	1-1/4" I.D. (1-3/8" O.D.) Diameter Pipe, 3/4" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	11.52	4.18
		For Work In Restricted Working Space, Add	2.57	
22 07 19 00-0531	LF	1-1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 3/4" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	12.12	4.18
		For Work In Restricted Working Space, Add	2.52	
22 07 19 00-0532	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 3/4" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	12.81	4.24
		For Work In Restricted Working Space, Add	2.54	
22 07 19 00-0533	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 3/4" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	14.15	4.34
		For Work In Restricted Working Space, Add	2.61	
22 07 19 00-0534	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 3/4" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	15.36	4.41
		For Work In Restricted Working Space, Add	2.64	
22 07 19 00-0535	LF	4" I.D. (4-1/8" O.D.) Diameter Pipe, 3/4" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	17.70	4.51
		For Work In Restricted Working Space, Add	2.71	
22 07 19 00-0536		1" Wall Flexible Polyolefin Tubing Foam Insulation (22 07 19 00-0499)		
	LF	1/4" I.D. (3/8" O.D.) Diameter Pipe, 1" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	10.51	4.18
		For Work In Restricted Working Space, Add	2.51	
22 07 19 00-0538	LF	3/8" I.D. (1/2" O.D.) Diameter Pipe, 1" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	10.66	4.24
		For Work In Restricted Working Space, Add	2.54	
22 07 19 00-0539	LF	1/2" I.D. (5/8" O.D.) Diameter Pipe, 1" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	11.04	4.34
		For Work In Restricted Working Space, Add	2.61	
22 07 19 00-0540	LF	3/4" I.D. (7/8" O.D.) Diameter Pipe, 1" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	11.86	4.41
		For Work In Restricted Working Space, Add	2.64	
22 07 19 00-0541	LF	1" I.D. (1-1/8" O.D.) Diameter Pipe, 1" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	12.56	4.51
		For Work In Restricted Working Space, Add	2.71	
22 07 19 00-0542	LF	1-1/4" I.D. (1-3/8" O.D.) Diameter Pipe, 1" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	13.26	4.63
		For Work In Restricted Working Space, Add	2.78	
22 07 19 00-0543	LF	1-1/2" I.D. (1-5/8" O.D.) Diameter Pipe, 1" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	13.95	4.63
		For Work In Restricted Working Space, Add	2.81	
22 07 19 00-0544	LF	2" I.D. (2-1/8" O.D.) Diameter Pipe, 1" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	15.49	4.74
		For Work In Restricted Working Space, Add	2.85	
22 07 19 00-0545	LF	2-1/2" I.D. (2-5/8" O.D.) Diameter Pipe, 1" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	17.55	4.87
		For Work In Restricted Working Space, Add	2.91	
22 07 19 00-0546	LF	3" I.D. (3-1/8" O.D.) Diameter Pipe, 1" Wall Polyolefin Tubing Flexible Closed Cell Foam Insulation.....	19.02	4.92
		For Work In Restricted Working Space, Add	2.95	
22 07 19 00-0547		Flexible Elastomeric Unicellular Insulation (22 07 19)		
		Note: For refrigeration piping. For elbow fittings/valves add 1 LF for each fitting/valve, for tee fittings add 2 LF for each fitting.		
22 07 19 00-0548		3/8" Wall Flexible Elastomeric Unicellular Insulation (22 07 19 00-0547)		
	LF	3/8" I.D. (1/2" Outside Diameter Pipe), 3/8" Wall Flexible Elastomeric Unicellular Insulation.....	8.10	3.21
		For Work In Restricted Working Space, Add	1.93	
22 07 19 00-0550	LF	1/2" I.D. (5/8" Outside Diameter Pipe), 3/8" Wall Flexible Elastomeric Unicellular Insulation.....	8.59	3.33
		For Work In Restricted Working Space, Add	2.00	
22 07 19 00-0551	LF	3/4" I.D. (7/8" Outside Diameter Pipe), 3/8" Wall Flexible Elastomeric Unicellular Insulation.....	9.02	3.46
		For Work In Restricted Working Space, Add	2.07	
22 07 19 00-0552	LF	1" I.D. (1-1/8" Outside Diameter Pipe), 3/8" Wall Flexible Elastomeric Unicellular Insulation.....	9.42	3.51
		For Work In Restricted Working Space, Add	2.10	
22 07 19 00-0553	LF	1-1/4" I.D. (1-3/8" Outside Diameter Pipe), 3/8" Wall Flexible Elastomeric Unicellular Insulation.....	9.86	3.56
		For Work In Restricted Working Space, Add	2.14	
22 07 19 00-0554	LF	1-1/2" I.D. (1-5/8" Outside Diameter Pipe), 3/8" Wall Flexible Elastomeric Unicellular Insulation.....	10.55	3.59
		For Work In Restricted Working Space, Add	2.15	
22 07 19 00-0555	LF	2" I.D. (2-1/8" Outside Diameter Pipe), 3/8" Wall Flexible Elastomeric Unicellular Insulation.....	11.38	3.68
		For Work In Restricted Working Space, Add	2.20	
22 07 19 00-0556	LF	2-1/2" I.D. (2-5/8" Outside Diameter Pipe), 3/8" Wall Flexible Elastomeric Unicellular Insulation.....	13.50	3.70
		For Work In Restricted Working Space, Add	2.22	
22 07 19 00-0557	LF	3" I.D. (3-1/8" Outside Diameter Pipe), 3/8" Wall Flexible Elastomeric Unicellular Insulation.....	15.00	3.76
		For Work In Restricted Working Space, Add	2.25	
22 07 19 00-0558		1/2" Wall Flexible Elastomeric Unicellular Insulation (22 07 19 00-0547)		
	LF	3/8" I.D. (1/2" Outside Diameter Pipe), 1/2" Wall Flexible Elastomeric Unicellular Insulation.....	9.42	3.46
		For Work In Restricted Working Space, Add	2.07	
22 07 19 00-0560	LF	1/2" I.D. (5/8" Outside Diameter Pipe), 1/2" Wall Flexible Elastomeric Unicellular Insulation.....	9.89	3.56
		For Work In Restricted Working Space, Add	2.14	
22 07 19 00-0561	LF	3/4" I.D. (7/8" Outside Diameter Pipe), 1/2" Wall Flexible Elastomeric Unicellular Insulation.....	10.26	3.56
		For Work In Restricted Working Space, Add	2.15	
22 07 19 00-0562	LF	1" I.D. (1-1/8" Outside Diameter Pipe), 1/2" Wall Flexible Elastomeric Unicellular Insulation.....	10.81	3.67
		For Work In Restricted Working Space, Add	2.20	

22 Plumbing**22 07 Plumbing Insulation****22 07 19 Plumbing Piping Insulation**

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0563	LF	1-1/4" I.D. (1-3/8" Outside Diameter Pipe), 1/2" Wall Flexible Elastomeric Unicellular Insulation	11.26	3.74	
		For Work In Restricted Working Space, Add	2.24		
22 07 19 00-0564	LF	1-1/2" I.D. (1-5/8" Outside Diameter Pipe), 1/2" Wall Flexible Elastomeric Unicellular Insulation	11.96	3.79	
		For Work In Restricted Working Space, Add	2.27		
22 07 19 00-0565	LF	2" I.D. (2-1/8" Outside Diameter Pipe), 1/2" Wall Flexible Elastomeric Unicellular Insulation	13.28	3.84	
		For Work In Restricted Working Space, Add	2.30		
22 07 19 00-0566	LF	2-1/2" I.D. (2-5/8" Outside Diameter Pipe), 1/2" Wall Flexible Elastomeric Unicellular Insulation	15.47	3.96	
		For Work In Restricted Working Space, Add	2.37		
22 07 19 00-0567	LF	3" I.D. (3-1/8" Outside Diameter Pipe), 1/2" Wall Flexible Elastomeric Unicellular Insulation	16.91	4.01	
		For Work In Restricted Working Space, Add	2.41		
22 07 19 00-0568	LF	3-1/2" I.D. (3-5/8" Outside Diameter Pipe), 1/2" Wall Flexible Elastomeric Unicellular Insulation	19.83	4.07	
		For Work In Restricted Working Space, Add	2.44		
22 07 19 00-0569	LF	4" I.D. (4-1/8" Outside Diameter Pipe), 1/2" Wall Flexible Elastomeric Unicellular Insulation	21.20	4.12	
		For Work In Restricted Working Space, Add	2.48		
22 07 19 00-0570 3/4" Wall Flexible Elastomeric Unicellular Insulation (22 07 19 00-0547)					
22 07 19 00-0571	LF	3/8" I.D. (1/2" Outside Diameter Pipe), 3/4" Wall Flexible Elastomeric Unicellular Insulation	11.39	3.77	
		For Work In Restricted Working Space, Add	2.26		
22 07 19 00-0572	LF	1/2" I.D. (5/8" Outside Diameter Pipe), 3/4" Wall Flexible Elastomeric Unicellular Insulation	12.13	3.96	
		For Work In Restricted Working Space, Add	2.37		
22 07 19 00-0573	LF	3/4" I.D. (7/8" Outside Diameter Pipe), 3/4" Wall Flexible Elastomeric Unicellular Insulation	13.07	4.01	
		For Work In Restricted Working Space, Add	2.41		
22 07 19 00-0574	LF	1" I.D. (1-1/8" Outside Diameter Pipe), 3/4" Wall Flexible Elastomeric Unicellular Insulation	14.40	4.13	
		For Work In Restricted Working Space, Add	2.48		
22 07 19 00-0575	LF	1-1/4" I.D. (1-3/8" Outside Diameter Pipe), 3/4" Wall Flexible Elastomeric Unicellular Insulation	15.39	4.18	
		For Work In Restricted Working Space, Add	2.51		
22 07 19 00-0576	LF	1-1/2" I.D. (1-5/8" Outside Diameter Pipe), 3/4" Wall Flexible Elastomeric Unicellular Insulation	17.80	4.24	
		For Work In Restricted Working Space, Add	2.54		
22 07 19 00-0577	LF	2" I.D. (2-1/8" Outside Diameter Pipe), 3/4" Wall Flexible Elastomeric Unicellular Insulation	19.89	4.27	
		For Work In Restricted Working Space, Add	2.56		
22 07 19 00-0578	LF	2-1/2" I.D. (2-5/8" Outside Diameter Pipe), 3/4" Wall Flexible Elastomeric Unicellular Insulation	23.03	4.35	
		For Work In Restricted Working Space, Add	2.61		
22 07 19 00-0579	LF	3" I.D. (3-1/8" Outside Diameter Pipe), 3/4" Wall Flexible Elastomeric Unicellular Insulation	25.20	4.41	
		For Work In Restricted Working Space, Add	2.64		
22 07 19 00-0580	LF	3-1/2" I.D. (3-5/8" Outside Diameter Pipe), 3/4" Wall Flexible Elastomeric Unicellular Insulation	28.80	4.46	
		For Work In Restricted Working Space, Add	2.68		
22 07 19 00-0581	LF	4" I.D. (4-1/8" Outside Diameter Pipe), 3/4" Wall Flexible Elastomeric Unicellular Insulation	30.44	4.51	
		For Work In Restricted Working Space, Add	2.71		
22 07 19 00-0582 1" Wall Flexible Elastomeric Unicellular Insulation (22 07 19 00-0547)					
22 07 19 00-0583	LF	3/8" I.D. (1/2" Outside Diameter Pipe), 1" Wall Flexible Elastomeric Unicellular Insulation	15.44	4.18	
		For Work In Restricted Working Space, Add	2.51		
22 07 19 00-0584	LF	1/2" I.D. (5/8" Outside Diameter Pipe), 1" Wall Flexible Elastomeric Unicellular Insulation	16.24	4.35	
		For Work In Restricted Working Space, Add	2.61		
22 07 19 00-0585	LF	3/4" I.D. (7/8" Outside Diameter Pipe), 1" Wall Flexible Elastomeric Unicellular Insulation	18.10	4.41	
		For Work In Restricted Working Space, Add	2.64		
22 07 19 00-0586	LF	1" I.D. (1-1/8" Outside Diameter Pipe), 1" Wall Flexible Elastomeric Unicellular Insulation	20.34	4.51	
		For Work In Restricted Working Space, Add	2.71		
22 07 19 00-0587	LF	1-1/4" I.D. (1-3/8" Outside Diameter Pipe), 1" Wall Flexible Elastomeric Unicellular Insulation	22.35	4.63	
		For Work In Restricted Working Space, Add	2.78		
22 07 19 00-0588	LF	1-1/2" I.D. (1-5/8" Outside Diameter Pipe), 1" Wall Flexible Elastomeric Unicellular Insulation	23.88	4.69	
		For Work In Restricted Working Space, Add	2.81		
22 07 19 00-0589	LF	2" I.D. (2-1/8" Outside Diameter Pipe), 1" Wall Flexible Elastomeric Unicellular Insulation	26.95	4.74	
		For Work In Restricted Working Space, Add	2.85		
22 07 19 00-0590	LF	2-1/2" I.D. (2-5/8" Outside Diameter Pipe), 1" Wall Flexible Elastomeric Unicellular Insulation	34.36	4.87	
		For Work In Restricted Working Space, Add	2.91		
22 07 19 00-0591	LF	3" I.D. (3-1/8" Outside Diameter Pipe), 1" Wall Flexible Elastomeric Unicellular Insulation	39.71	4.92	
		For Work In Restricted Working Space, Add	2.95		
22 07 19 00-0592	LF	3-1/2" I.D. (3-5/8" Outside Diameter Pipe), 1" Wall Flexible Elastomeric Unicellular Insulation	42.59	4.97	
		For Work In Restricted Working Space, Add	2.98		
22 07 19 00-0593	LF	4" I.D. (4-1/8" Outside Diameter Pipe), 1" Wall Flexible Elastomeric Unicellular Insulation	48.50	5.09	
		For Work In Restricted Working Space, Add	3.05		
22 07 19 00-0594 Insulation Protective Jacketing (22 07 19)					
Note: Jacketing only and to be added to insulation prices when required.					
22 07 19 00-0595 Aluminum Insulation Protective Jacketing With Bands (22 07 19 00-0594)					
22 07 19 00-0596 Aluminum Roll, Insulation Protective Jacketing With Bands (22 07 19 00-0595)					
22 07 19 00-0597	SF	0.006" Aluminum Insulation Jacket With Bands	16.38	6.88	
22 07 19 00-0598	SF	0.010" Aluminum Insulation Jacket With Bands	16.72	6.88	
22 07 19 00-0599	SF	0.016" Aluminum Insulation Jacket With Bands	17.05	6.88	
22 07 19 00-0600	SF	0.020" Aluminum Insulation Jacket With Bands	17.35	6.88	
22 07 19 00-0601	SF	0.024" Aluminum Insulation Jacket With Bands	17.62	6.88	
22 07 19 00-0602 16 Mil, Aluminum Insulation Protective Jacketing With Polykraft Moisture Barrier And Bands (22 07 19 00-0595)					



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0603	LF	1/2" ID, 0.016" Aluminum Insulation Jacketing	.....	8.44	1.95
		For Stucco Embossed, Add	.....	0.01	
		For Corrugated, Add	.....	0.02	
22 07 19 00-0604	LF	3/4" ID, 0.016" Aluminum Insulation Jacketing	.....	8.80	2.00
		For Stucco Embossed, Add	.....	0.01	
		For Corrugated, Add	.....	0.02	
22 07 19 00-0605	LF	1" ID, 0.016" Aluminum Insulation Jacketing	.....	9.17	2.05
		For Stucco Embossed, Add	.....	0.01	
		For Corrugated, Add	.....	0.02	
22 07 19 00-0606	LF	1-1/4" ID, 0.016" Aluminum Insulation Jacketing	.....	9.54	2.10
		For Stucco Embossed, Add	.....	0.01	
		For Corrugated, Add	.....	0.03	
22 07 19 00-0607	LF	1-1/2" ID, 0.016" Aluminum Insulation Jacketing	.....	9.85	2.13
		For Stucco Embossed, Add	.....	0.01	
		For Corrugated, Add	.....	0.03	
22 07 19 00-0608	LF	1-3/4" ID, 0.016" Aluminum Insulation Jacketing	.....	10.15	2.17
		For Stucco Embossed, Add	.....	0.02	
		For Corrugated, Add	.....	0.04	
22 07 19 00-0609	LF	2" ID, 0.016" Aluminum Insulation Jacketing	.....	10.52	2.21
		For Stucco Embossed, Add	.....	0.02	
		For Corrugated, Add	.....	0.04	
22 07 19 00-0610	LF	2-1/4" ID, 0.016" Aluminum Insulation Jacketing	.....	10.89	2.26
		For Stucco Embossed, Add	.....	0.02	
		For Corrugated, Add	.....	0.05	
22 07 19 00-0611	LF	2-1/2" ID, 0.016" Aluminum Insulation Jacketing	.....	11.29	2.30
		For Stucco Embossed, Add	.....	0.02	
		For Corrugated, Add	.....	0.05	
22 07 19 00-0612	LF	2-3/4" ID, 0.016" Aluminum Insulation Jacketing	.....	11.62	2.34
		For Stucco Embossed, Add	.....	0.02	
		For Corrugated, Add	.....	0.06	
22 07 19 00-0613	LF	3" ID, 0.016" Aluminum Insulation Jacketing	.....	12.02	2.39
		For Stucco Embossed, Add	.....	0.02	
		For Corrugated, Add	.....	0.06	
22 07 19 00-0614	LF	3-1/4" ID, 0.016" Aluminum Insulation Jacketing	.....	12.43	2.45
		For Stucco Embossed, Add	.....	0.03	
		For Corrugated, Add	.....	0.07	
22 07 19 00-0615	LF	3-1/2" ID, 0.016" Aluminum Insulation Jacketing	.....	12.83	2.50
		For Stucco Embossed, Add	.....	0.03	
		For Corrugated, Add	.....	0.07	
22 07 19 00-0616	LF	3-3/4" ID, 0.016" Aluminum Insulation Jacketing	.....	13.20	2.55
		For Stucco Embossed, Add	.....	0.03	
		For Corrugated, Add	.....	0.08	
22 07 19 00-0617	LF	4" ID, 0.016" Aluminum Insulation Jacketing	.....	13.62	2.61
		For Stucco Embossed, Add	.....	0.03	
		For Corrugated, Add	.....	0.08	
22 07 19 00-0618	LF	4-1/4" ID, 0.016" Aluminum Insulation Jacketing	.....	14.06	2.67
		For Stucco Embossed, Add	.....	0.03	
		For Corrugated, Add	.....	0.08	
22 07 19 00-0619	LF	4-1/2" ID, 0.016" Aluminum Insulation Jacketing	.....	14.53	2.74
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.09	
22 07 19 00-0620	LF	4-3/4" ID, 0.016" Aluminum Insulation Jacketing	.....	14.92	2.79
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.09	
22 07 19 00-0621	LF	5" ID, 0.016" Aluminum Insulation Jacketing	.....	15.40	2.87
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.10	
22 07 19 00-0622	LF	5-1/4" ID, 0.016" Aluminum Insulation Jacketing	.....	15.91	2.95
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.10	
22 07 19 00-0623	LF	5-1/2" ID, 0.016" Aluminum Insulation Jacketing	.....	16.34	3.01
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.11	
22 07 19 00-0624	LF	5-3/4" ID, 0.016" Aluminum Insulation Jacketing	.....	16.88	3.09
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.11	
22 07 19 00-0625	LF	6" ID, 0.016" Aluminum Insulation Jacketing	.....	17.42	3.18
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.12	
22 07 19 00-0626	LF	6-1/4" ID, 0.016" Aluminum Insulation Jacketing	.....	17.80	3.23
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.12	
22 07 19 00-0627	LF	6-1/2" ID, 0.016" Aluminum Insulation Jacketing	.....	18.18	3.28
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.13	
22 07 19 00-0628	LF	7" ID, 0.016" Aluminum Insulation Jacketing	.....	18.83	3.36
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.13	
22 07 19 00-0629	LF	7-1/4" ID, 0.016" Aluminum Insulation Jacketing	.....	19.33	3.45
		For Stucco Embossed, Add	.....	0.06	
		For Corrugated, Add	.....	0.14	
22 07 19 00-0630	LF	7-1/2" ID, 0.016" Aluminum Insulation Jacketing	.....	19.73	3.50
		For Stucco Embossed, Add	.....	0.06	
		For Corrugated, Add	.....	0.14	

22 Plumbing**22 07 Plumbing Insulation****22 07 19 Plumbing Piping Insulation**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0631	LF	8" ID, 0.016" Aluminum Insulation Jacketing	20.33	3.56
		For Stucco Embossed, Add	0.06	
		For Corrugated, Add	0.15	
22 07 19 00-0632	LF	8-1/2" ID, 0.016" Aluminum Insulation Jacketing	20.94	3.62
		For Stucco Embossed, Add	0.06	
		For Corrugated, Add	0.16	
22 07 19 00-0633	LF	9" ID, 0.016" Aluminum Insulation Jacketing	21.67	3.71
		For Stucco Embossed, Add	0.07	
		For Corrugated, Add	0.17	
22 07 19 00-0634	LF	9-1/2" ID, 0.016" Aluminum Insulation Jacketing	22.31	3.78
		For Stucco Embossed, Add	0.07	
		For Corrugated, Add	0.18	
22 07 19 00-0635	LF	10" ID, 0.016" Aluminum Insulation Jacketing	22.93	3.84
		For Stucco Embossed, Add	0.08	
		For Corrugated, Add	0.19	
22 07 19 00-0636	LF	10-1/2" ID, 0.016" Aluminum Insulation Jacketing	23.59	3.91
		For Stucco Embossed, Add	0.08	
		For Corrugated, Add	0.20	
22 07 19 00-0637	LF	11" ID, 0.016" Aluminum Insulation Jacketing	24.39	4.02
		For Stucco Embossed, Add	0.08	
		For Corrugated, Add	0.21	
22 07 19 00-0638	LF	11-1/2" ID, 0.016" Aluminum Insulation Jacketing	25.07	4.10
		For Stucco Embossed, Add	0.09	
		For Corrugated, Add	0.22	
22 07 19 00-0639	LF	12" ID, 0.016" Aluminum Insulation Jacketing	25.75	4.18
		For Stucco Embossed, Add	0.09	
		For Corrugated, Add	0.23	
22 07 19 00-0640	LF	12-1/2" ID, 0.016" Aluminum Insulation Jacketing	26.62	4.30
		For Stucco Embossed, Add	0.09	
		For Corrugated, Add	0.24	
22 07 19 00-0641	LF	13" ID, 0.016" Aluminum Insulation Jacketing	27.16	4.34
		For Stucco Embossed, Add	0.10	
		For Corrugated, Add	0.24	
22 07 19 00-0642	LF	14" ID, 0.016" Aluminum Insulation Jacketing	28.07	4.39
		For Stucco Embossed, Add	0.11	
		For Corrugated, Add	0.26	
22 07 19 00-0643	LF	15" ID, 0.016" Aluminum Insulation Jacketing	29.17	4.48
		For Stucco Embossed, Add	0.11	
		For Corrugated, Add	0.28	
22 07 19 00-0644	LF	16" ID, 0.016" Aluminum Insulation Jacketing	30.09	4.53
		For Stucco Embossed, Add	0.12	
		For Corrugated, Add	0.30	
22 07 19 00-0645	LF	17" ID, 0.016" Aluminum Insulation Jacketing	31.22	4.62
		For Stucco Embossed, Add	0.13	
		For Corrugated, Add	0.32	
22 07 19 00-0646	LF	18" ID, 0.016" Aluminum Insulation Jacketing	31.91	4.67
		For Stucco Embossed, Add	0.13	
		For Corrugated, Add	0.33	
22 07 19 00-0647	LF	19" ID, 0.016" Aluminum Insulation Jacketing	33.30	4.79
		For Stucco Embossed, Add	0.14	
		For Corrugated, Add	0.35	
22 07 19 00-0648	LF	20" ID, 0.016" Aluminum Insulation Jacketing	34.26	4.84
		For Stucco Embossed, Add	0.15	
		For Corrugated, Add	0.37	
22 07 19 00-0649	LF	21" ID, 0.016" Aluminum Insulation Jacketing	35.44	4.95
		For Stucco Embossed, Add	0.16	
		For Corrugated, Add	0.39	
22 07 19 00-0650	LF	22" ID, 0.016" Aluminum Insulation Jacketing	36.39	5.01
		For Stucco Embossed, Add	0.16	
		For Corrugated, Add	0.41	
22 07 19 00-0651	LF	23" ID, 0.016" Aluminum Insulation Jacketing	37.61	5.12
		For Stucco Embossed, Add	0.17	
		For Corrugated, Add	0.43	
22 07 19 00-0652	LF	24" ID, 0.016" Aluminum Insulation Jacketing	38.57	5.19
		For Stucco Embossed, Add	0.18	
		For Corrugated, Add	0.45	
22 07 19 00-0653		20 Mil, Aluminum Insulation Protective Jacketing With Polykraft Moisture Barrier And Bands (22 07 19 00-0595)		
22 07 19 00-0654	LF	1/2" ID, 0.020" Aluminum Insulation Jacketing	9.38	2.16
		For Stucco Embossed, Add	0.01	
		For Corrugated, Add	0.02	
22 07 19 00-0655	LF	3/4" ID, 0.020" Aluminum Insulation Jacketing	9.80	2.21
		For Stucco Embossed, Add	0.01	
		For Corrugated, Add	0.03	
22 07 19 00-0656	LF	1" ID, 0.020" Aluminum Insulation Jacketing	10.25	2.26
		For Stucco Embossed, Add	0.01	
		For Corrugated, Add	0.03	
22 07 19 00-0657	LF	1-1/4" ID, 0.020" Aluminum Insulation Jacketing	10.70	2.31
		For Stucco Embossed, Add	0.01	
		For Corrugated, Add	0.04	
22 07 19 00-0658	LF	1-1/2" ID, 0.020" Aluminum Insulation Jacketing	11.06	2.35
		For Stucco Embossed, Add	0.02	
		For Corrugated, Add	0.04	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0659	LF	1-3/4" ID, 0.020" Aluminum Insulation Jacketing	.....	11.43	2.38
		For Stucco Embossed, Add	.....	0.02	
		For Corrugated, Add	.....	0.05	
22 07 19 00-0660	LF	2" ID, 0.020" Aluminum Insulation Jacketing	.....	11.86	2.43
		For Stucco Embossed, Add	.....	0.02	
		For Corrugated, Add	.....	0.05	
22 07 19 00-0661	LF	2-1/4" ID, 0.020" Aluminum Insulation Jacketing	.....	12.29	2.48
		For Stucco Embossed, Add	.....	0.02	
		For Corrugated, Add	.....	0.06	
22 07 19 00-0662	LF	2-1/2" ID, 0.020" Aluminum Insulation Jacketing	.....	12.76	2.53
		For Stucco Embossed, Add	.....	0.03	
		For Corrugated, Add	.....	0.07	
22 07 19 00-0663	LF	2-3/4" ID, 0.020" Aluminum Insulation Jacketing	.....	13.16	2.57
		For Stucco Embossed, Add	.....	0.03	
		For Corrugated, Add	.....	0.07	
22 07 19 00-0664	LF	3" ID, 0.020" Aluminum Insulation Jacketing	.....	13.65	2.63
		For Stucco Embossed, Add	.....	0.03	
		For Corrugated, Add	.....	0.08	
22 07 19 00-0665	LF	3-1/4" ID, 0.020" Aluminum Insulation Jacketing	.....	14.12	2.69
		For Stucco Embossed, Add	.....	0.03	
		For Corrugated, Add	.....	0.08	
22 07 19 00-0666	LF	3-1/2" ID, 0.020" Aluminum Insulation Jacketing	.....	14.60	2.75
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.09	
22 07 19 00-0667	LF	3-3/4" ID, 0.020" Aluminum Insulation Jacketing	.....	15.02	2.80
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.10	
22 07 19 00-0668	LF	4" ID, 0.020" Aluminum Insulation Jacketing	.....	15.52	2.87
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.10	
22 07 19 00-0669	LF	4-1/4" ID, 0.020" Aluminum Insulation Jacketing	.....	16.04	2.94
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.11	
22 07 19 00-0670	LF	4-1/2" ID, 0.020" Aluminum Insulation Jacketing	.....	16.60	3.01
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.11	
22 07 19 00-0671	LF	4-3/4" ID, 0.020" Aluminum Insulation Jacketing	.....	17.06	3.07
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.12	
22 07 19 00-0672	LF	5" ID, 0.020" Aluminum Insulation Jacketing	.....	17.62	3.15
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.13	
22 07 19 00-0673	LF	5-1/4" ID, 0.020" Aluminum Insulation Jacketing	.....	18.20	3.24
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.13	
22 07 19 00-0674	LF	5-1/2" ID, 0.020" Aluminum Insulation Jacketing	.....	18.70	3.31
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.14	
22 07 19 00-0675	LF	5-3/4" ID, 0.020" Aluminum Insulation Jacketing	.....	19.33	3.41
		For Stucco Embossed, Add	.....	0.06	
		For Corrugated, Add	.....	0.14	
22 07 19 00-0676	LF	6" ID, 0.020" Aluminum Insulation Jacketing	.....	19.96	3.51
		For Stucco Embossed, Add	.....	0.06	
		For Corrugated, Add	.....	0.15	
22 07 19 00-0677	LF	6-1/4" ID, 0.020" Aluminum Insulation Jacketing	.....	20.40	3.56
		For Stucco Embossed, Add	.....	0.06	
		For Corrugated, Add	.....	0.15	
22 07 19 00-0678	LF	6-1/2" ID, 0.020" Aluminum Insulation Jacketing	.....	20.86	3.62
		For Stucco Embossed, Add	.....	0.06	
		For Corrugated, Add	.....	0.16	
22 07 19 00-0679	LF	7" ID, 0.020" Aluminum Insulation Jacketing	.....	21.62	3.70
		For Stucco Embossed, Add	.....	0.07	
		For Corrugated, Add	.....	0.17	
22 07 19 00-0680	LF	7-1/4" ID, 0.020" Aluminum Insulation Jacketing	.....	22.20	3.79
		For Stucco Embossed, Add	.....	0.07	
		For Corrugated, Add	.....	0.18	
22 07 19 00-0681	LF	7-1/2" ID, 0.020" Aluminum Insulation Jacketing	.....	22.68	3.85
		For Stucco Embossed, Add	.....	0.07	
		For Corrugated, Add	.....	0.18	
22 07 19 00-0682	LF	8" ID, 0.020" Aluminum Insulation Jacketing	.....	23.41	3.92
		For Stucco Embossed, Add	.....	0.08	
		For Corrugated, Add	.....	0.19	
22 07 19 00-0683	LF	8-1/2" ID, 0.020" Aluminum Insulation Jacketing	.....	24.12	3.98
		For Stucco Embossed, Add	.....	0.08	
		For Corrugated, Add	.....	0.21	
22 07 19 00-0684	LF	9" ID, 0.020" Aluminum Insulation Jacketing	.....	24.99	4.08
		For Stucco Embossed, Add	.....	0.09	
		For Corrugated, Add	.....	0.22	
22 07 19 00-0685	LF	9-1/2" ID, 0.020" Aluminum Insulation Jacketing	.....	25.76	4.15
		For Stucco Embossed, Add	.....	0.09	
		For Corrugated, Add	.....	0.23	
22 07 19 00-0686	LF	10" ID, 0.020" Aluminum Insulation Jacketing	.....	26.52	4.22
		For Stucco Embossed, Add	.....	0.10	
		For Corrugated, Add	.....	0.24	

22 Plumbing**22 07 Plumbing Insulation****22 07 19 Plumbing Piping Insulation**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0687	LF		10-1/2" ID, 0.020" Aluminum Insulation Jacketing	27.29	4.30
			For Stucco Embossed, Add	0.10	
			For Corrugated, Add	0.25	
22 07 19 00-0688	LF		11" ID, 0.0106 Aluminum Insulation Jacketing	28.23	4.42
			For Stucco Embossed, Add	0.11	
			For Corrugated, Add	0.26	
22 07 19 00-0689	LF		11-1/2" ID, 0.020" Aluminum Insulation Jacketing	29.06	4.50
			For Stucco Embossed, Add	0.11	
			For Corrugated, Add	0.28	
22 07 19 00-0690	LF		12" ID, 0.020" Aluminum Insulation Jacketing	29.87	4.59
			For Stucco Embossed, Add	0.11	
			For Corrugated, Add	0.29	
22 07 19 00-0691	LF		12-1/2" ID, 0.020" Aluminum Insulation Jacketing	30.88	4.73
			For Stucco Embossed, Add	0.12	
			For Corrugated, Add	0.30	
22 07 19 00-0692	LF		13" ID, 0.020" Aluminum Insulation Jacketing	31.52	4.79
			For Stucco Embossed, Add	0.12	
			For Corrugated, Add	0.31	
22 07 19 00-0693	LF		14" ID, 0.020" Aluminum Insulation Jacketing	32.67	4.83
			For Stucco Embossed, Add	0.13	
			For Corrugated, Add	0.33	
22 07 19 00-0694	LF		15" ID, 0.020" Aluminum Insulation Jacketing	34.00	4.93
			For Stucco Embossed, Add	0.14	
			For Corrugated, Add	0.36	
22 07 19 00-0695	LF		16" ID, 0.020" Aluminum Insulation Jacketing	35.15	4.99
			For Stucco Embossed, Add	0.15	
			For Corrugated, Add	0.38	
22 07 19 00-0696	LF		17" ID, 0.020" Aluminum Insulation Jacketing	36.50	5.09
			For Stucco Embossed, Add	0.16	
			For Corrugated, Add	0.40	
22 07 19 00-0697	LF		18" ID, 0.020" Aluminum Insulation Jacketing	37.35	5.15
			For Stucco Embossed, Add	0.17	
			For Corrugated, Add	0.42	
22 07 19 00-0698	LF		19" ID, 0.020" Aluminum Insulation Jacketing	39.03	5.26
			For Stucco Embossed, Add	0.18	
			For Corrugated, Add	0.45	
22 07 19 00-0699	LF		20" ID, 0.020" Aluminum Insulation Jacketing	40.23	5.32
			For Stucco Embossed, Add	0.19	
			For Corrugated, Add	0.47	
22 07 19 00-0700	LF		21" ID, 0.020" Aluminum Insulation Jacketing	41.63	5.44
			For Stucco Embossed, Add	0.20	
			For Corrugated, Add	0.50	
22 07 19 00-0701	LF		22" ID, 0.020" Aluminum Insulation Jacketing	42.80	5.50
			For Stucco Embossed, Add	0.21	
			For Corrugated, Add	0.52	
22 07 19 00-0702	LF		23" ID, 0.020" Aluminum Insulation Jacketing	44.28	5.63
			For Stucco Embossed, Add	0.22	
			For Corrugated, Add	0.54	
22 07 19 00-0703	LF		24" ID, 0.020" Aluminum Insulation Jacketing	45.47	5.70
			For Stucco Embossed, Add	0.23	
			For Corrugated, Add	0.57	
22 07 19 00-0704			24 Mil, Aluminum Insulation Protective Jacketing With Polykraft Moisture Barrier And Bands (22 07 19 00-0595)		
22 07 19 00-0705	LF		1/2" ID, 0.024" Aluminum Insulation Jacketing	10.32	2.35
			For Stucco Embossed, Add	0.01	
			For Corrugated, Add	0.02	
22 07 19 00-0706	LF		3/4" ID, 0.024" Aluminum Insulation Jacketing	10.81	2.40
			For Stucco Embossed, Add	0.01	
			For Corrugated, Add	0.03	
22 07 19 00-0707	LF		1" ID, 0.024" Aluminum Insulation Jacketing	11.31	2.46
			For Stucco Embossed, Add	0.01	
			For Corrugated, Add	0.04	
22 07 19 00-0708	LF		1-1/4" ID, 0.024" Aluminum Insulation Jacketing	11.82	2.52
			For Stucco Embossed, Add	0.02	
			For Corrugated, Add	0.04	
22 07 19 00-0709	LF		1-1/2" ID, 0.024" Aluminum Insulation Jacketing	12.26	2.56
			For Stucco Embossed, Add	0.02	
			For Corrugated, Add	0.05	
22 07 19 00-0710	LF		1-3/4" ID, 0.024" Aluminum Insulation Jacketing	12.68	2.60
			For Stucco Embossed, Add	0.02	
			For Corrugated, Add	0.06	
22 07 19 00-0711	LF		2" ID, 0.024" Aluminum Insulation Jacketing	13.17	2.65
			For Stucco Embossed, Add	0.03	
			For Corrugated, Add	0.06	
22 07 19 00-0712	LF		2-1/4" ID, 0.024" Aluminum Insulation Jacketing	13.66	2.70
			For Stucco Embossed, Add	0.03	
			For Corrugated, Add	0.07	
22 07 19 00-0713	LF		2-1/2" ID, 0.024" Aluminum Insulation Jacketing	14.20	2.76
			For Stucco Embossed, Add	0.03	
			For Corrugated, Add	0.08	
22 07 19 00-0714	LF		2-3/4" ID, 0.024" Aluminum Insulation Jacketing	14.66	2.81
			For Stucco Embossed, Add	0.03	
			For Corrugated, Add	0.09	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0715	LF	3" ID, 0.024" Aluminum Insulation Jacketing	.....	15.22	2.87
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.09	
22 07 19 00-0716	LF	3-1/4" ID, 0.024" Aluminum Insulation Jacketing	.....	15.76	2.93
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.10	
22 07 19 00-0717	LF	3-1/2" ID, 0.024" Aluminum Insulation Jacketing	.....	16.31	3.00
		For Stucco Embossed, Add	.....	0.04	
		For Corrugated, Add	.....	0.11	
22 07 19 00-0718	LF	3-3/4" ID, 0.024" Aluminum Insulation Jacketing	.....	16.79	3.05
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.11	
22 07 19 00-0719	LF	4" ID, 0.024" Aluminum Insulation Jacketing	.....	17.36	3.13
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.12	
22 07 19 00-0720	LF	4-1/4" ID, 0.024" Aluminum Insulation Jacketing	.....	17.94	3.20
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.13	
22 07 19 00-0721	LF	4-1/2" ID, 0.024" Aluminum Insulation Jacketing	.....	18.59	3.28
		For Stucco Embossed, Add	.....	0.05	
		For Corrugated, Add	.....	0.14	
22 07 19 00-0722	LF	4-3/4" ID, 0.024" Aluminum Insulation Jacketing	.....	19.11	3.35
		For Stucco Embossed, Add	.....	0.06	
		For Corrugated, Add	.....	0.14	
22 07 19 00-0723	LF	5" ID, 0.024" Aluminum Insulation Jacketing	.....	19.75	3.45
		For Stucco Embossed, Add	.....	0.06	
		For Corrugated, Add	.....	0.15	
22 07 19 00-0724	LF	5-1/4" ID, 0.024" Aluminum Insulation Jacketing	.....	20.39	3.54
		For Stucco Embossed, Add	.....	0.06	
		For Corrugated, Add	.....	0.16	
22 07 19 00-0725	LF	5-1/2" ID, 0.024" Aluminum Insulation Jacketing	.....	20.98	3.61
		For Stucco Embossed, Add	.....	0.07	
		For Corrugated, Add	.....	0.16	
22 07 19 00-0726	LF	5-3/4" ID, 0.024" Aluminum Insulation Jacketing	.....	21.70	3.72
		For Stucco Embossed, Add	.....	0.07	
		For Corrugated, Add	.....	0.17	
22 07 19 00-0727	LF	6" ID, 0.024" Aluminum Insulation Jacketing	.....	22.41	3.83
		For Stucco Embossed, Add	.....	0.07	
		For Corrugated, Add	.....	0.18	
22 07 19 00-0728	LF	6-1/4" ID, 0.024" Aluminum Insulation Jacketing	.....	22.91	3.88
		For Stucco Embossed, Add	.....	0.07	
		For Corrugated, Add	.....	0.18	
22 07 19 00-0729	LF	6-1/2" ID, 0.024" Aluminum Insulation Jacketing	.....	23.43	3.94
		For Stucco Embossed, Add	.....	0.08	
		For Corrugated, Add	.....	0.19	
22 07 19 00-0730	LF	7" ID, 0.024" Aluminum Insulation Jacketing	.....	24.32	4.03
		For Stucco Embossed, Add	.....	0.08	
		For Corrugated, Add	.....	0.20	
22 07 19 00-0731	LF	7-1/4" ID, 0.024" Aluminum Insulation Jacketing	.....	24.97	4.13
		For Stucco Embossed, Add	.....	0.08	
		For Corrugated, Add	.....	0.21	
22 07 19 00-0732	LF	7-1/2" ID, 0.024" Aluminum Insulation Jacketing	.....	25.52	4.20
		For Stucco Embossed, Add	.....	0.09	
		For Corrugated, Add	.....	0.22	
22 07 19 00-0733	LF	8" ID, 0.024" Aluminum Insulation Jacketing	.....	26.37	4.27
		For Stucco Embossed, Add	.....	0.09	
		For Corrugated, Add	.....	0.23	
22 07 19 00-0734	LF	8-1/2" ID, 0.024" Aluminum Insulation Jacketing	.....	27.19	4.34
		For Stucco Embossed, Add	.....	0.10	
		For Corrugated, Add	.....	0.25	
22 07 19 00-0735	LF	9" ID, 0.024" Aluminum Insulation Jacketing	.....	28.18	4.45
		For Stucco Embossed, Add	.....	0.10	
		For Corrugated, Add	.....	0.26	
22 07 19 00-0736	LF	9-1/2" ID, 0.024" Aluminum Insulation Jacketing	.....	29.07	4.53
		For Stucco Embossed, Add	.....	0.11	
		For Corrugated, Add	.....	0.27	
22 07 19 00-0737	LF	10" ID, 0.024" Aluminum Insulation Jacketing	.....	29.95	4.61
		For Stucco Embossed, Add	.....	0.12	
		For Corrugated, Add	.....	0.29	
22 07 19 00-0738	LF	10-1/2" ID, 0.024" Aluminum Insulation Jacketing	.....	30.84	4.69
		For Stucco Embossed, Add	.....	0.12	
		For Corrugated, Add	.....	0.30	
22 07 19 00-0739	LF	11" ID, 0.0106 Aluminum Insulation Jacketing	.....	31.91	4.83
		For Stucco Embossed, Add	.....	0.13	
		For Corrugated, Add	.....	0.32	
22 07 19 00-0740	LF	11-1/2" ID, 0.024" Aluminum Insulation Jacketing	.....	32.86	4.92
		For Stucco Embossed, Add	.....	0.13	
		For Corrugated, Add	.....	0.33	
22 07 19 00-0741	LF	12" ID, 0.024" Aluminum Insulation Jacketing	.....	33.80	5.02
		For Stucco Embossed, Add	.....	0.14	
		For Corrugated, Add	.....	0.34	
22 07 19 00-0742	LF	12-1/2" ID, 0.024" Aluminum Insulation Jacketing	.....	34.95	5.17
		For Stucco Embossed, Add	.....	0.14	
		For Corrugated, Add	.....	0.36	

22 Plumbing**22 07 Plumbing Insulation****22 07 19 Plumbing Piping Insulation**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0743	LF		13" ID, 0.024" Aluminum Insulation Jacketing	35.71	5.22
			For Stucco Embossed, Add	0.15	
			For Corrugated, Add	0.37	
22 07 19 00-0744	LF		14" ID, 0.024" Aluminum Insulation Jacketing	37.06	5.27
			For Stucco Embossed, Add	0.16	
			For Corrugated, Add	0.40	
22 07 19 00-0745	LF		15" ID, 0.024" Aluminum Insulation Jacketing	38.60	5.38
			For Stucco Embossed, Add	0.17	
			For Corrugated, Add	0.43	
22 07 19 00-0746	LF		16" ID, 0.024" Aluminum Insulation Jacketing	39.95	5.43
			For Stucco Embossed, Add	0.18	
			For Corrugated, Add	0.46	
22 07 19 00-0747	LF		17" ID, 0.024" Aluminum Insulation Jacketing	41.51	5.55
			For Stucco Embossed, Add	0.19	
			For Corrugated, Add	0.48	
22 07 19 00-0748	LF		18" ID, 0.024" Aluminum Insulation Jacketing	42.52	5.61
			For Stucco Embossed, Add	0.20	
			For Corrugated, Add	0.50	
22 07 19 00-0749	LF		19" ID, 0.024" Aluminum Insulation Jacketing	44.50	5.73
			For Stucco Embossed, Add	0.22	
			For Corrugated, Add	0.54	
22 07 19 00-0750	LF		20" ID, 0.024" Aluminum Insulation Jacketing	45.89	5.80
			For Stucco Embossed, Add	0.23	
			For Corrugated, Add	0.57	
22 07 19 00-0751	LF		21" ID, 0.024" Aluminum Insulation Jacketing	47.51	5.93
			For Stucco Embossed, Add	0.24	
			For Corrugated, Add	0.59	
22 07 19 00-0752	LF		22" ID, 0.024" Aluminum Insulation Jacketing	48.90	6.00
			For Stucco Embossed, Add	0.25	
			For Corrugated, Add	0.62	
22 07 19 00-0753	LF		23" ID, 0.024" Aluminum Insulation Jacketing	50.61	6.15
			For Stucco Embossed, Add	0.26	
			For Corrugated, Add	0.65	
22 07 19 00-0754	LF		24" ID, 0.024" Aluminum Insulation Jacketing	52.00	6.22
			For Stucco Embossed, Add	0.27	
			For Corrugated, Add	0.68	
22 07 19 00-0755			32 Mil, Aluminum Insulation Protective Jacketing With Polykraft Moisture Barrier And Bands (22 07 19 00-0595)		
22 07 19 00-0756	LF		1/2" ID, 0.032" Aluminum Insulation Jacketing	11.66	2.60
			For Stucco Embossed, Add	0.01	
			For Corrugated, Add	0.03	
22 07 19 00-0757	LF		3/4" ID, 0.032" Aluminum Insulation Jacketing	12.26	2.66
			For Stucco Embossed, Add	0.02	
			For Corrugated, Add	0.04	
22 07 19 00-0758	LF		1" ID, 0.032" Aluminum Insulation Jacketing	12.88	2.72
			For Stucco Embossed, Add	0.02	
			For Corrugated, Add	0.05	
22 07 19 00-0759	LF		1-1/4" ID, 0.032" Aluminum Insulation Jacketing	13.51	2.79
			For Stucco Embossed, Add	0.02	
			For Corrugated, Add	0.06	
22 07 19 00-0760	LF		1-1/2" ID, 0.032" Aluminum Insulation Jacketing	14.05	2.83
			For Stucco Embossed, Add	0.03	
			For Corrugated, Add	0.07	
22 07 19 00-0761	LF		1-3/4" ID, 0.032" Aluminum Insulation Jacketing	14.59	2.87
			For Stucco Embossed, Add	0.03	
			For Corrugated, Add	0.08	
22 07 19 00-0762	LF		2" ID, 0.032" Aluminum Insulation Jacketing	15.20	2.93
			For Stucco Embossed, Add	0.03	
			For Corrugated, Add	0.09	
22 07 19 00-0763	LF		2-1/4" ID, 0.032" Aluminum Insulation Jacketing	15.82	2.99
			For Stucco Embossed, Add	0.04	
			For Corrugated, Add	0.10	
22 07 19 00-0764	LF		2-1/2" ID, 0.032" Aluminum Insulation Jacketing	16.48	3.06
			For Stucco Embossed, Add	0.04	
			For Corrugated, Add	0.11	
22 07 19 00-0765	LF		2-3/4" ID, 0.032" Aluminum Insulation Jacketing	17.05	3.11
			For Stucco Embossed, Add	0.05	
			For Corrugated, Add	0.12	
22 07 19 00-0766	LF		3" ID, 0.032" Aluminum Insulation Jacketing	17.74	3.18
			For Stucco Embossed, Add	0.05	
			For Corrugated, Add	0.13	
22 07 19 00-0767	LF		3-1/4" ID, 0.032" Aluminum Insulation Jacketing	18.41	3.25
			For Stucco Embossed, Add	0.05	
			For Corrugated, Add	0.14	
22 07 19 00-0768	LF		3-1/2" ID, 0.032" Aluminum Insulation Jacketing	19.08	3.32
			For Stucco Embossed, Add	0.06	
			For Corrugated, Add	0.14	
22 07 19 00-0769	LF		3-3/4" ID, 0.032" Aluminum Insulation Jacketing	19.67	3.38
			For Stucco Embossed, Add	0.06	
			For Corrugated, Add	0.15	
22 07 19 00-0770	LF		4" ID, 0.032" Aluminum Insulation Jacketing	20.37	3.47
			For Stucco Embossed, Add	0.07	
			For Corrugated, Add	0.16	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0771	LF	4-1/4"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	21.08 0.07 0.17	3.56
22 07 19 00-0772	LF	4-1/2"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	21.87 0.07 0.18	3.65
22 07 19 00-0773	LF	4-3/4"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	22.52 0.08 0.19	3.72
22 07 19 00-0774	LF	5"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	23.29 0.08 0.20	3.82
22 07 19 00-0775	LF	5-1/4"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	24.07 0.08 0.21	3.92
22 07 19 00-0776	LF	5-1/2"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	24.77 0.09 0.22	4.00
22 07 19 00-0777	LF	5-3/4"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	25.65 0.09 0.23	4.12
22 07 19 00-0778	LF	6"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	26.50 0.10 0.24	4.24
22 07 19 00-0779	LF	6-1/4"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	27.13 0.10 0.25	4.30
22 07 19 00-0780	LF	6-1/2"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	27.77 0.10 0.26	4.37
22 07 19 00-0781	LF	7"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	28.86 0.11 0.27	4.47
22 07 19 00-0782	LF	7-1/4"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	29.66 0.11 0.28	4.57
22 07 19 00-0783	LF	7-1/2"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	30.33 0.12 0.29	4.65
22 07 19 00-0784	LF	8"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	31.38 0.12 0.31	4.73
22 07 19 00-0785	LF	8-1/2"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	32.42 0.13 0.33	4.81
22 07 19 00-0786	LF	9"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	33.67 0.14 0.35	4.94
22 07 19 00-0787	LF	9-1/2"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	34.79 0.15 0.37	5.02
22 07 19 00-0788	LF	10"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	35.89 0.15 0.39	5.11
22 07 19 00-0789	LF	10-1/2"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	37.00 0.16 0.40	5.20
22 07 19 00-0790	LF	11"	0.0106 Aluminum Insulation Jacketing..... For Stucco Embossed, Add For Corrugated, Add	38.32 0.17 0.42	5.35
22 07 19 00-0791	LF	11-1/2"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	39.51 0.18 0.44	5.45
22 07 19 00-0792	LF	12"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	40.67 0.18 0.46	5.56
22 07 19 00-0793	LF	12-1/2"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	42.08 0.19 0.48	5.72
22 07 19 00-0794	LF	13"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	43.05 0.20 0.50	5.78
22 07 19 00-0795	LF	14"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	44.81 0.21 0.54	5.84
22 07 19 00-0796	LF	15"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	46.77 0.23 0.57	5.96
22 07 19 00-0797	LF	16"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	48.55 0.24 0.61	6.02
22 07 19 00-0798	LF	17"	0.032" Aluminum Insulation Jacketing For Stucco Embossed, Add For Corrugated, Add	50.53 0.26 0.65	6.16

22 Plumbing**22 07 Plumbing Insulation****22 07 19 Plumbing Piping Insulation**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0799	LF	18" ID, 0.032" Aluminum Insulation Jacketing	51.82	6.22
		For Stucco Embossed, Add	0.27	
		For Corrugated, Add	0.67	
22 07 19 00-0800	LF	19" ID, 0.032" Aluminum Insulation Jacketing	54.36	6.36
		For Stucco Embossed, Add	0.29	
		For Corrugated, Add	0.72	
22 07 19 00-0801	LF	20" ID, 0.032" Aluminum Insulation Jacketing	56.16	6.43
		For Stucco Embossed, Add	0.30	
		For Corrugated, Add	0.76	
22 07 19 00-0802	LF	21" ID, 0.032" Aluminum Insulation Jacketing	58.23	6.58
		For Stucco Embossed, Add	0.32	
		For Corrugated, Add	0.80	
22 07 19 00-0803	LF	22" ID, 0.032" Aluminum Insulation Jacketing	60.01	6.66
		For Stucco Embossed, Add	0.33	
		For Corrugated, Add	0.83	
22 07 19 00-0804	LF	23" ID, 0.032" Aluminum Insulation Jacketing	62.17	6.81
		For Stucco Embossed, Add	0.35	
		For Corrugated, Add	0.87	
22 07 19 00-0805	LF	24" ID, 0.032" Aluminum Insulation Jacketing	63.97	6.89
		For Stucco Embossed, Add	0.36	
		For Corrugated, Add	0.91	
22 07 19 00-0806 40 Mil, Aluminum Insulation Protective Jacketing With Polykraft Moisture Barrier And Bands (22 07 19 00-0595)				
22 07 19 00-0807	LF	1/2" ID, 0.040" Aluminum Insulation Jacketing	13.53	2.99
		For Stucco Embossed, Add	0.02	
		For Corrugated, Add	0.04	
22 07 19 00-0808	LF	3/4" ID, 0.040" Aluminum Insulation Jacketing	14.28	3.06
		For Stucco Embossed, Add	0.02	
		For Corrugated, Add	0.05	
22 07 19 00-0809	LF	1" ID, 0.040" Aluminum Insulation Jacketing	15.03	3.13
		For Stucco Embossed, Add	0.02	
		For Corrugated, Add	0.06	
22 07 19 00-0810	LF	1-1/4" ID, 0.040" Aluminum Insulation Jacketing	15.79	3.21
		For Stucco Embossed, Add	0.03	
		For Corrugated, Add	0.07	
22 07 19 00-0811	LF	1-1/2" ID, 0.040" Aluminum Insulation Jacketing	16.46	3.26
		For Stucco Embossed, Add	0.03	
		For Corrugated, Add	0.09	
22 07 19 00-0812	LF	1-3/4" ID, 0.040" Aluminum Insulation Jacketing	17.11	3.30
		For Stucco Embossed, Add	0.04	
		For Corrugated, Add	0.10	
22 07 19 00-0813	LF	2" ID, 0.040" Aluminum Insulation Jacketing	17.84	3.37
		For Stucco Embossed, Add	0.04	
		For Corrugated, Add	0.11	
22 07 19 00-0814	LF	2-1/4" ID, 0.040" Aluminum Insulation Jacketing	18.59	3.45
		For Stucco Embossed, Add	0.05	
		For Corrugated, Add	0.12	
22 07 19 00-0815	LF	2-1/2" ID, 0.040" Aluminum Insulation Jacketing	19.41	3.52
		For Stucco Embossed, Add	0.05	
		For Corrugated, Add	0.13	
22 07 19 00-0816	LF	2-3/4" ID, 0.040" Aluminum Insulation Jacketing	20.11	3.58
		For Stucco Embossed, Add	0.06	
		For Corrugated, Add	0.14	
22 07 19 00-0817	LF	3" ID, 0.040" Aluminum Insulation Jacketing	20.94	3.66
		For Stucco Embossed, Add	0.06	
		For Corrugated, Add	0.16	
22 07 19 00-0818	LF	3-1/4" ID, 0.040" Aluminum Insulation Jacketing	21.73	3.74
		For Stucco Embossed, Add	0.07	
		For Corrugated, Add	0.17	
22 07 19 00-0819	LF	3-1/2" ID, 0.040" Aluminum Insulation Jacketing	22.55	3.83
		For Stucco Embossed, Add	0.07	
		For Corrugated, Add	0.18	
22 07 19 00-0820	LF	3-3/4" ID, 0.040" Aluminum Insulation Jacketing	23.28	3.90
		For Stucco Embossed, Add	0.08	
		For Corrugated, Add	0.19	
22 07 19 00-0821	LF	4" ID, 0.040" Aluminum Insulation Jacketing	24.12	3.99
		For Stucco Embossed, Add	0.08	
		For Corrugated, Add	0.20	
22 07 19 00-0822	LF	4-1/4" ID, 0.040" Aluminum Insulation Jacketing	24.98	4.09
		For Stucco Embossed, Add	0.09	
		For Corrugated, Add	0.22	
22 07 19 00-0823	LF	4-1/2" ID, 0.040" Aluminum Insulation Jacketing	25.92	4.19
		For Stucco Embossed, Add	0.09	
		For Corrugated, Add	0.23	
22 07 19 00-0824	LF	4-3/4" ID, 0.040" Aluminum Insulation Jacketing	26.71	4.27
		For Stucco Embossed, Add	0.10	
		For Corrugated, Add	0.24	
22 07 19 00-0825	LF	5" ID, 0.040" Aluminum Insulation Jacketing	27.63	4.39
		For Stucco Embossed, Add	0.10	
		For Corrugated, Add	0.25	
22 07 19 00-0826	LF	5-1/4" ID, 0.040" Aluminum Insulation Jacketing	28.56	4.51
		For Stucco Embossed, Add	0.11	
		For Corrugated, Add	0.26	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0827	LF	5-1/2" ID, 0.040" Aluminum Insulation Jacketing	.....	29.42	4.60
		For Stucco Embossed, Add	.....	0.11	
		For Corrugated, Add	.....	0.28	
22 07 19 00-0828	LF	5-3/4" ID, 0.040" Aluminum Insulation Jacketing	.....	30.46	4.73
		For Stucco Embossed, Add	.....	0.12	
		For Corrugated, Add	.....	0.29	
22 07 19 00-0829	LF	6" ID, 0.040" Aluminum Insulation Jacketing	.....	31.48	4.88
		For Stucco Embossed, Add	.....	0.12	
		For Corrugated, Add	.....	0.30	
22 07 19 00-0830	LF	6-1/4" ID, 0.040" Aluminum Insulation Jacketing	.....	32.24	4.95
		For Stucco Embossed, Add	.....	0.12	
		For Corrugated, Add	.....	0.31	
22 07 19 00-0831	LF	6-1/2" ID, 0.040" Aluminum Insulation Jacketing	.....	33.01	5.03
		For Stucco Embossed, Add	.....	0.13	
		For Corrugated, Add	.....	0.32	
22 07 19 00-0832	LF	7" ID, 0.040" Aluminum Insulation Jacketing	.....	34.35	5.15
		For Stucco Embossed, Add	.....	0.14	
		For Corrugated, Add	.....	0.34	
22 07 19 00-0833	LF	7-1/4" ID, 0.040" Aluminum Insulation Jacketing	.....	35.31	5.27
		For Stucco Embossed, Add	.....	0.14	
		For Corrugated, Add	.....	0.36	
22 07 19 00-0834	LF	7-1/2" ID, 0.040" Aluminum Insulation Jacketing	.....	36.11	5.35
		For Stucco Embossed, Add	.....	0.15	
		For Corrugated, Add	.....	0.37	
22 07 19 00-0835	LF	8" ID, 0.040" Aluminum Insulation Jacketing	.....	37.41	5.44
		For Stucco Embossed, Add	.....	0.16	
		For Corrugated, Add	.....	0.39	
22 07 19 00-0836	LF	8-1/2" ID, 0.040" Aluminum Insulation Jacketing	.....	38.67	5.53
		For Stucco Embossed, Add	.....	0.17	
		For Corrugated, Add	.....	0.41	
22 07 19 00-0837	LF	9" ID, 0.040" Aluminum Insulation Jacketing	.....	40.18	5.67
		For Stucco Embossed, Add	.....	0.17	
		For Corrugated, Add	.....	0.44	
22 07 19 00-0838	LF	9-1/2" ID, 0.040" Aluminum Insulation Jacketing	.....	41.56	5.77
		For Stucco Embossed, Add	.....	0.18	
		For Corrugated, Add	.....	0.46	
22 07 19 00-0839	LF	10" ID, 0.040" Aluminum Insulation Jacketing	.....	42.90	5.87
		For Stucco Embossed, Add	.....	0.19	
		For Corrugated, Add	.....	0.48	
22 07 19 00-0840	LF	10-1/2" ID, 0.040" Aluminum Insulation Jacketing	.....	44.26	5.98
		For Stucco Embossed, Add	.....	0.20	
		For Corrugated, Add	.....	0.51	
22 07 19 00-0841	LF	11" ID, 0.0106 Aluminum Insulation Jacketing	.....	45.85	6.16
		For Stucco Embossed, Add	.....	0.21	
		For Corrugated, Add	.....	0.53	
22 07 19 00-0842	LF	11-1/2" ID, 0.040" Aluminum Insulation Jacketing	.....	47.30	6.27
		For Stucco Embossed, Add	.....	0.22	
		For Corrugated, Add	.....	0.56	
22 07 19 00-0843	LF	12" ID, 0.040" Aluminum Insulation Jacketing	.....	48.72	6.39
		For Stucco Embossed, Add	.....	0.23	
		For Corrugated, Add	.....	0.58	
22 07 19 00-0844	LF	12-1/2" ID, 0.040" Aluminum Insulation Jacketing	.....	50.41	6.58
		For Stucco Embossed, Add	.....	0.24	
		For Corrugated, Add	.....	0.60	
22 07 19 00-0845	LF	13" ID, 0.040" Aluminum Insulation Jacketing	.....	51.60	6.65
		For Stucco Embossed, Add	.....	0.25	
		For Corrugated, Add	.....	0.63	
22 07 19 00-0846	LF	14" ID, 0.040" Aluminum Insulation Jacketing	.....	53.78	6.72
		For Stucco Embossed, Add	.....	0.27	
		For Corrugated, Add	.....	0.67	
22 07 19 00-0847	LF	15" ID, 0.040" Aluminum Insulation Jacketing	.....	56.20	6.86
		For Stucco Embossed, Add	.....	0.29	
		For Corrugated, Add	.....	0.72	
22 07 19 00-0848	LF	16" ID, 0.040" Aluminum Insulation Jacketing	.....	58.39	6.93
		For Stucco Embossed, Add	.....	0.31	
		For Corrugated, Add	.....	0.77	
22 07 19 00-0849	LF	17" ID, 0.040" Aluminum Insulation Jacketing	.....	60.85	7.08
		For Stucco Embossed, Add	.....	0.33	
		For Corrugated, Add	.....	0.81	
22 07 19 00-0850	LF	18" ID, 0.040" Aluminum Insulation Jacketing	.....	62.42	7.15
		For Stucco Embossed, Add	.....	0.34	
		For Corrugated, Add	.....	0.85	
22 07 19 00-0851	LF	19" ID, 0.040" Aluminum Insulation Jacketing	.....	65.55	7.31
		For Stucco Embossed, Add	.....	0.36	
		For Corrugated, Add	.....	0.91	
22 07 19 00-0852	LF	20" ID, 0.040" Aluminum Insulation Jacketing	.....	67.79	7.39
		For Stucco Embossed, Add	.....	0.38	
		For Corrugated, Add	.....	0.96	
22 07 19 00-0853	LF	21" ID, 0.040" Aluminum Insulation Jacketing	.....	70.31	7.57
		For Stucco Embossed, Add	.....	0.40	
		For Corrugated, Add	.....	1.00	
22 07 19 00-0854	LF	22" ID, 0.040" Aluminum Insulation Jacketing	.....	72.53	7.66
		For Stucco Embossed, Add	.....	0.42	
		For Corrugated, Add	.....	1.05	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0855	LF		23" ID, 0.040" Aluminum Insulation Jacketing	75.17	7.84
			For Stucco Embossed, Add	0.44	
			For Corrugated, Add	1.10	
22 07 19 00-0856	LF		24" ID, 0.040" Aluminum Insulation Jacketing	77.39	7.93
			For Stucco Embossed, Add	0.46	
			For Corrugated, Add	1.14	
22 07 19 00-0857 Aluminum Insulation Protective Jacketing For Fittings (22 07 19 00-0595)					
22 07 19 00-0858	EA		1-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	21.47	3.07
22 07 19 00-0859	EA		1-3/4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	21.92	3.18
22 07 19 00-0860	EA		2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	24.79	3.31
22 07 19 00-0861	EA		2-1/4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	25.00	3.36
22 07 19 00-0862	EA		2-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	25.21	3.42
22 07 19 00-0863	EA		2-3/4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	25.54	3.50
22 07 19 00-0864	EA		3" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	26.88	3.59
22 07 19 00-0865	EA		3-1/4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	27.24	3.68
22 07 19 00-0866	EA		3-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	29.78	3.74
22 07 19 00-0867	EA		3-3/4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	30.42	3.81
22 07 19 00-0868	EA		4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	31.54	3.91
22 07 19 00-0869	EA		4-1/4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	32.29	3.98
22 07 19 00-0870	EA		4-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	32.59	4.06
22 07 19 00-0871	EA		4-3/4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	32.90	4.14
22 07 19 00-0872	EA		5" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	35.30	4.22
22 07 19 00-0873	EA		5-1/4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	38.46	4.30
22 07 19 00-0874	EA		5-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	44.22	4.43
22 07 19 00-0875	EA		5-3/4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	44.59	4.53
22 07 19 00-0876	EA		6" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	41.30	4.67
22 07 19 00-0877	EA		6-1/4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	41.71	4.79
22 07 19 00-0878	EA		6-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	46.99	4.95
22 07 19 00-0879	EA		7" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	53.26	5.06
22 07 19 00-0880	EA		7-1/4" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	53.50	5.12
22 07 19 00-0881	EA		7-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	69.27	5.19
22 07 19 00-0882	EA		8" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	57.18	5.25
22 07 19 00-0883	EA		8-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	88.40	5.38
22 07 19 00-0884	EA		9" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	88.94	5.52
22 07 19 00-0885	EA		9-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	71.55	5.59
22 07 19 00-0886	EA		10" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	71.85	5.66
22 07 19 00-0887	EA		10-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	73.21	5.73
22 07 19 00-0888	EA		11" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	73.52	5.81
22 07 19 00-0889	EA		11-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	81.05	5.97
22 07 19 00-0890	EA		12" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	81.38	6.06
22 07 19 00-0891	EA		12-1/2" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	126.64	6.24
22 07 19 00-0892	EA		13" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	127.01	6.33
22 07 19 00-0893	EA		14" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	162.45	6.52
22 07 19 00-0894	EA		15" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	169.47	6.72
22 07 19 00-0895	EA		16" ID, Aluminum 90 Degree LR Elbow Insulation Jacketing.....	182.85	6.83
22 07 19 00-0896	EA		2-1/2" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	23.20	3.42
22 07 19 00-0897	EA		2-3/4" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	23.53	3.50
22 07 19 00-0898	EA		3" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	25.13	3.59
22 07 19 00-0899	EA		3-1/4" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	25.49	3.68
22 07 19 00-0900	EA		3-1/2" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	27.27	3.74
22 07 19 00-0901	EA		3-3/4" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	27.53	3.81
22 07 19 00-0902	EA		4" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	28.15	3.91
22 07 19 00-0903	EA		4-1/4" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	30.21	3.98
22 07 19 00-0904	EA		4-1/2" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	30.51	4.06
22 07 19 00-0905	EA		4-3/4" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	30.82	4.14
22 07 19 00-0906	EA		5" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	33.62	4.22
22 07 19 00-0907	EA		5-1/4" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	33.96	4.30
22 07 19 00-0908	EA		5-1/2" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	35.31	4.43
22 07 19 00-0909	EA		6" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	36.28	4.67
22 07 19 00-0910	EA		6-1/2" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	44.05	4.95
22 07 19 00-0911	EA		7" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	44.51	5.06
22 07 19 00-0912	EA		7-1/2" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	45.22	5.19
22 07 19 00-0913	EA		8" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	45.47	5.25
22 07 19 00-0914	EA		8-1/2" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	51.98	5.38
22 07 19 00-0915	EA		9" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	52.52	5.52
22 07 19 00-0916	EA		9-1/2" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	64.63	5.59
22 07 19 00-0917	EA		10" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	64.93	5.66
22 07 19 00-0918	EA		10-1/2" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	62.49	5.73
22 07 19 00-0919	EA		11" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	62.80	5.81
22 07 19 00-0920	EA		11-1/2" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	71.41	5.97
22 07 19 00-0921	EA		12" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	71.74	6.06
22 07 19 00-0922	EA		13" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	81.07	6.33
22 07 19 00-0923	EA		14" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	94.49	6.52
22 07 19 00-0924	EA		15" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	132.30	6.72
22 07 19 00-0925	EA		16" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	141.59	6.83
22 07 19 00-0926	EA		17" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	139.33	6.94
22 07 19 00-0927	EA		18" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	155.49	7.05
22 07 19 00-0928	EA		19" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	184.15	7.17
22 07 19 00-0929	EA		20" ID, Aluminum 45 Degree Elbow Insulation Jacketing.....	179.53	7.29



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-0930	EA		21" ID, Aluminum 45 Degree Elbow Insulation Jacketing	191.99	7.41
22 07 19 00-0931	EA		2-1/2" ID, Aluminum Tee Insulation Jacketing	95.07	4.89
22 07 19 00-0932	EA		2-3/4" ID, Aluminum Tee Insulation Jacketing	85.54	5.01
22 07 19 00-0933	EA		3" ID, Aluminum Tee Insulation Jacketing	94.52	5.12
22 07 19 00-0934	EA		3-1/4" ID, Aluminum Tee Insulation Jacketing	95.01	5.25
22 07 19 00-0935	EA		3-1/2" ID Aluminum Tee Insulation Jacketing	99.09	5.38
22 07 19 00-0936	EA		4" ID, Aluminum Tee Insulation Jacketing	100.47	5.52
22 07 19 00-0937	EA		4-1/4" ID, Aluminum Tee Insulation Jacketing	105.58	5.66
22 07 19 00-0938	EA		4-1/2" ID, Aluminum Tee Insulation Jacketing	105.52	5.81
22 07 19 00-0939	EA		4-3/4" ID, Aluminum Tee Insulation Jacketing	106.17	5.97
22 07 19 00-0940	EA		5" ID, Aluminum Tee Insulation Jacketing	109.92	6.15
22 07 19 00-0941	EA		5-1/4" ID, Aluminum Tee Insulation Jacketing	110.64	6.33
22 07 19 00-0942	EA		5-1/2" ID, Aluminum Tee Insulation Jacketing	115.18	6.52
22 07 19 00-0943	EA		6" ID, Aluminum Tee Insulation Jacketing	116.00	6.72
22 07 19 00-0944	EA		6-1/2" ID, Aluminum Tee Insulation Jacketing	126.56	7.17
22 07 19 00-0945	EA		7" ID, Aluminum Tee Insulation Jacketing	127.55	7.41
22 07 19 00-0946	EA		7-1/2" ID, Aluminum Tee Insulation Jacketing	139.58	7.69
22 07 19 00-0947	EA		8" ID, Aluminum Tee Insulation Jacketing	140.71	7.97
22 07 19 00-0948	EA		8-1/2" ID, Aluminum Tee Insulation Jacketing	144.81	8.27
22 07 19 00-0949	EA		9" ID, Aluminum Tee Insulation Jacketing	146.14	8.60
22 07 19 00-0950	EA		9-1/2" ID, Aluminum Tee Insulation Jacketing	118.04	8.78
22 07 19 00-0951	EA		10" ID, Aluminum Tee Insulation Jacketing	118.76	8.97
22 07 19 00-0952	EA		10-1/2" ID, Aluminum Tee Insulation Jacketing	124.93	9.16
22 07 19 00-0953	EA		11" ID, Aluminum Tee Insulation Jacketing	125.73	9.35
22 07 19 00-0954	EA		11-1/2" ID, Aluminum Tee Insulation Jacketing	131.37	9.56
22 07 19 00-0955	EA		12" ID, Aluminum Tee Insulation Jacketing	132.25	9.78
22 07 19 00-0956	EA		13" ID, Aluminum Tee Insulation Jacketing	137.79	10.00
22 07 19 00-0957	EA		14" ID, Aluminum Tee Insulation Jacketing	143.54	10.25
22 07 19 00-0958	EA		15" ID, Aluminum Tee Insulation Jacketing	152.90	10.50
22 07 19 00-0959	EA		16" ID, Aluminum Tee Insulation Jacketing	156.74	10.76
22 07 19 00-0960	EA		17" ID, Aluminum Tee Insulation Jacketing	174.86	11.03
22 07 19 00-0961	EA		18" ID, Aluminum Tee Insulation Jacketing	181.11	11.32
22 07 19 00-0962	EA		19" ID, Aluminum Tee Insulation Jacketing	196.71	11.63
22 07 19 00-0963	EA		20" ID, Aluminum Tee Insulation Jacketing	201.29	11.95
22 07 19 00-0964	EA		22" ID, Aluminum Tee Insulation Jacketing	244.41	12.29
22 07 19 00-0965	EA		23" ID, Aluminum Tee Insulation Jacketing	251.28	12.65
22 07 19 00-0966	EA		24" ID, Aluminum Tee Insulation Jacketing	261.41	13.88
22 07 19 00-0967			Stainless Steel Insulation Protective Jacketing With Bands (22 07 19 00-0594)		
22 07 19 00-0968			Type 304 Stainless Steel Roll, Insulation Protective Jacketing With Bands (22 07 19 00-0967)		
22 07 19 00-0969	SF		0.010" Stainless Steel Insulation Jacket With Bands	20.77	8.07
22 07 19 00-0970	SF		0.016" Stainless Steel Insulation Jacket With Bands	25.63	9.68
22 07 19 00-0971			10 Mil, Type 304 Stainless Steel, Insulation Protective Jacketing With Moisture Barrier And Bands (22 07 19 00-0967)		
22 07 19 00-0972	LF		2-1/2" ID, 0.010" Stainless Steel Insulation Jacketing	10.78	1.72
22 07 19 00-0973	LF		2-3/4" ID, 0.010" Stainless Steel Insulation Jacketing	11.26	1.75
22 07 19 00-0974	LF		3" ID, 0.010" Stainless Steel Insulation Jacketing	11.76	1.79
22 07 19 00-0975	LF		3-1/4" ID, 0.010" Stainless Steel Insulation Jacketing	12.26	1.83
22 07 19 00-0976	LF		3-1/2" ID, 0.010" Stainless Steel Insulation Jacketing	12.78	1.87
22 07 19 00-0977	LF		3-3/4" ID, 0.010" Stainless Steel Insulation Jacketing	13.28	1.91
22 07 19 00-0978	LF		4" ID, 0.010" Stainless Steel Insulation Jacketing	13.81	1.95
22 07 19 00-0979	LF		4-1/4" ID, 0.010" Stainless Steel Insulation Jacketing	14.33	2.00
22 07 19 00-0980	LF		4-1/2" ID, 0.010" Stainless Steel Insulation Jacketing	14.87	2.05
22 07 19 00-0981	LF		5" ID, 0.010" Stainless Steel Insulation Jacketing	15.97	2.16
22 07 19 00-0982	LF		5-1/2" ID, 0.010" Stainless Steel Insulation Jacketing	17.12	2.27
22 07 19 00-0983	LF		6" ID, 0.010" Stainless Steel Insulation Jacketing	18.30	2.39
22 07 19 00-0984	LF		6-1/2" ID, 0.010" Stainless Steel Insulation Jacketing	19.26	2.46
22 07 19 00-0985	LF		7" ID, 0.010" Stainless Steel Insulation Jacketing	20.26	2.53
22 07 19 00-0986	LF		7-1/2" ID, 0.010" Stainless Steel Insulation Jacketing	21.32	2.62
22 07 19 00-0987	LF		8" ID, 0.010" Stainless Steel Insulation Jacketing	22.20	2.67
22 07 19 00-0988	LF		8-1/2" ID, 0.010" Stainless Steel Insulation Jacketing	23.09	2.72
22 07 19 00-0989	LF		9" ID, 0.010" Stainless Steel Insulation Jacketing	24.00	2.78
22 07 19 00-0990	LF		9-1/2" ID, 0.010" Stainless Steel Insulation Jacketing	24.91	2.83
22 07 19 00-0991	LF		10" ID, 0.010" Stainless Steel Insulation Jacketing	25.84	2.89
22 07 19 00-0992	LF		10-1/2" ID, 0.010" Stainless Steel Insulation Jacketing	26.77	2.95
22 07 19 00-0993	LF		11" ID, 0.010" Stainless Steel Insulation Jacketing	27.71	3.01
22 07 19 00-0994	LF		12" ID, 0.010" Stainless Steel Insulation Jacketing	29.61	3.14
22 07 19 00-0995	LF		13" ID, 0.010" Stainless Steel Insulation Jacketing	31.48	3.26
22 07 19 00-0996	LF		14" ID, 0.010" Stainless Steel Insulation Jacketing	33.06	3.31
22 07 19 00-0997			16 Mil, Type 304 Stainless Steel, Insulation Protective Jacketing With Moisture Barrier And Bands (22 07 19 00-0967)		
22 07 19 00-0998	LF		2-1/2" ID, 0.016" Stainless Steel Insulation Jacketing	14.81	2.29
22 07 19 00-0999	LF		2-3/4" ID, 0.016" Stainless Steel Insulation Jacketing	15.49	2.34
22 07 19 00-1000	LF		3" ID, 0.016" Stainless Steel Insulation Jacketing	16.19	2.39



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT UNIT COST DEMOLITION UNIT COST

22 07 19 00-1001	LF	3-1/4" ID, 0.016" Stainless Steel Insulation Jacketing.....	16.91	2.44
22 07 19 00-1002	LF	3-1/2" ID, 0.016" Stainless Steel Insulation Jacketing.....	17.62	2.49
22 07 19 00-1003	LF	3-3/4" ID, 0.016" Stainless Steel Insulation Jacketing.....	18.34	2.54
22 07 19 00-1004	LF	4" ID, 0.016" Stainless Steel Insulation Jacketing.....	19.08	2.60
22 07 19 00-1005	LF	4-1/4" ID, 0.016" Stainless Steel Insulation Jacketing.....	19.82	2.66
22 07 19 00-1006	LF	4-1/2" ID, 0.016" Stainless Steel Insulation Jacketing.....	20.56	2.72
22 07 19 00-1007	LF	5" ID, 0.016" Stainless Steel Insulation Jacketing.....	22.12	2.86
22 07 19 00-1008	LF	5-1/2" ID, 0.016" Stainless Steel Insulation Jacketing.....	23.73	3.01
22 07 19 00-1009	LF	6" ID, 0.016" Stainless Steel Insulation Jacketing.....	25.39	3.18
22 07 19 00-1010	LF	6-1/2" ID, 0.016" Stainless Steel Insulation Jacketing.....	26.76	3.27
22 07 19 00-1011	LF	7" ID, 0.016" Stainless Steel Insulation Jacketing.....	28.17	3.36
22 07 19 00-1012	LF	7-1/2" ID, 0.016" Stainless Steel Insulation Jacketing.....	29.64	3.49
22 07 19 00-1013	LF	8" ID, 0.016" Stainless Steel Insulation Jacketing.....	30.90	3.56
22 07 19 00-1014	LF	8-1/2" ID, 0.016" Stainless Steel Insulation Jacketing.....	32.18	3.63
22 07 19 00-1015	LF	9" ID, 0.016" Stainless Steel Insulation Jacketing.....	33.48	3.69
22 07 19 00-1016	LF	9-1/2" ID, 0.016" Stainless Steel Insulation Jacketing.....	34.77	3.77
22 07 19 00-1017	LF	10" ID, 0.016" Stainless Steel Insulation Jacketing.....	36.07	3.84
22 07 19 00-1018	LF	10-1/2" ID, 0.016" Stainless Steel Insulation Jacketing.....	37.41	3.92
22 07 19 00-1019	LF	11" ID, 0.016" Stainless Steel Insulation Jacketing.....	38.73	4.00
22 07 19 00-1020	LF	12" ID, 0.016" Stainless Steel Insulation Jacketing.....	41.43	4.18
22 07 19 00-1021	LF	13" ID, 0.016" Stainless Steel Insulation Jacketing.....	44.08	4.33
22 07 19 00-1022	LF	14" ID, 0.016" Stainless Steel Insulation Jacketing.....	46.34	4.40

22 07 19 00-1023 Type 316 Stainless Steel Insulation Protective Jacketing For Fittings (22 07 19 00-0967)

22 07 19 00-1024	EA	2-1/2" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	30.87	3.42
22 07 19 00-1025	EA	2-3/4" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	31.20	3.50
22 07 19 00-1026	EA	3" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	32.35	3.59
22 07 19 00-1027	EA	3-1/4" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	32.71	3.68
22 07 19 00-1028	EA	3-1/2" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	33.88	3.74
22 07 19 00-1029	EA	3-3/4" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	35.21	3.81
22 07 19 00-1030	EA	4" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	37.61	3.91
22 07 19 00-1031	EA	4-1/4" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	45.13	3.98
22 07 19 00-1032	EA	4-1/2" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	45.43	4.06
22 07 19 00-1033	EA	5" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	46.74	4.22
22 07 19 00-1034	EA	5-1/2" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	62.26	4.43
22 07 19 00-1035	EA	6" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	67.58	4.67
22 07 19 00-1036	EA	6-1/2" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	87.06	4.95
22 07 19 00-1037	EA	7" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	87.52	5.06
22 07 19 00-1038	EA	7-1/2" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	99.28	5.19
22 07 19 00-1039	EA	8" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	100.07	5.38
22 07 19 00-1040	EA	8-1/2" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	102.74	5.38
22 07 19 00-1041	EA	9" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	145.60	5.52
22 07 19 00-1042	EA	9-1/2" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	143.74	5.59
22 07 19 00-1043	EA	10" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	144.04	5.66
22 07 19 00-1044	EA	10-1/2" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	168.19	5.73
22 07 19 00-1045	EA	11" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	161.91	5.81
22 07 19 00-1046	EA	12" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	181.64	6.06
22 07 19 00-1047	EA	13" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	243.39	6.33
22 07 19 00-1048	EA	14" ID, Stainless Steel 90 Degree LR Elbow Insulation Jacketing.....	245.62	6.52
22 07 19 00-1049	EA	2-1/2" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	28.01	3.42
22 07 19 00-1050	EA	2-3/4" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	28.34	3.50
22 07 19 00-1051	EA	3" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	29.79	3.59
22 07 19 00-1052	EA	3-1/4" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	30.15	3.68
22 07 19 00-1053	EA	3-1/2" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	30.60	3.74
22 07 19 00-1054	EA	3-3/4" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	30.86	3.81
22 07 19 00-1055	EA	4" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	35.74	3.91
22 07 19 00-1056	EA	4-1/4" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	44.14	3.98
22 07 19 00-1057	EA	4-1/2" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	44.44	4.06
22 07 19 00-1058	EA	4-3/4" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	44.75	4.14
22 07 19 00-1059	EA	5" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	45.55	4.22
22 07 19 00-1060	EA	5-1/2" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	46.42	4.43
22 07 19 00-1061	EA	6" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	52.74	4.67
22 07 19 00-1062	EA	6-1/2" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	53.82	4.95
22 07 19 00-1063	EA	7" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	77.83	5.06
22 07 19 00-1064	EA	7-1/2" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	79.49	5.19
22 07 19 00-1065	EA	8" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	79.74	5.25
22 07 19 00-1066	EA	8-1/2" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	90.28	5.38
22 07 19 00-1067	EA	9" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	90.82	5.52
22 07 19 00-1068	EA	9-1/2" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	103.08	5.59
22 07 19 00-1069	EA	10" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	103.38	5.66
22 07 19 00-1070	EA	10-1/2" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	119.97	5.73
22 07 19 00-1071	EA	11" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	120.28	5.81
22 07 19 00-1072	EA	12" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	129.60	6.06
22 07 19 00-1073	EA	13" ID, Stainless Steel 45 Degree Elbow Insulation Jacketing.....	149.29	6.33

22 07 19 00-1074 Polyvinyl Chloride (PVC) Insulation Protective Jacketing (22 07 19 00-0594)

22 07 19 00-1075 20 Mil Polyvinyl Chloride (PVC) Insulation Protective Jacketing (22 07 19 00-1074)

22 07 19 00-1076	LF	1-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing.....	7.82	1.59



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-1077	LF		2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	8.55	1.65
22 07 19 00-1078	LF		2-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	9.17	1.72
22 07 19 00-1079	LF		3" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	9.94	1.79
22 07 19 00-1080	LF		3-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	10.62	1.87
22 07 19 00-1081	LF		4" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	11.38	1.95
22 07 19 00-1082	LF		4-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	12.17	2.05
22 07 19 00-1083	LF		5" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	12.93	2.16
22 07 19 00-1084	LF		5-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	13.81	2.27
22 07 19 00-1085	LF		6" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	14.74	2.39
22 07 19 00-1086	LF		6-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	15.43	2.46
22 07 19 00-1087	LF		7" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	16.08	2.53
22 07 19 00-1088	LF		7-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	16.94	2.62
22 07 19 00-1089	LF		8" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	17.49	2.67
22 07 19 00-1090	LF		8-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	18.11	2.72
22 07 19 00-1091	LF		9" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	18.74	2.78
22 07 19 00-1092	LF		9-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	19.39	2.83
22 07 19 00-1093	LF		10" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	19.99	2.89
22 07 19 00-1094	LF		10-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	20.64	2.95
22 07 19 00-1095	LF		11" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	21.31	3.01
22 07 19 00-1096	LF		11-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	21.98	3.07
22 07 19 00-1097	LF		12" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	22.61	3.14
22 07 19 00-1098	LF		12-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	23.37	3.21
22 07 19 00-1099	LF		13" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	23.93	3.26
22 07 19 00-1100	LF		13-1/2" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	24.36	3.26
22 07 19 00-1101	LF		14" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	24.98	3.31
22 07 19 00-1102	LF		15" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	26.03	3.36
22 07 19 00-1103	LF		16" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	27.02	3.42
22 07 19 00-1104	LF		17" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	28.08	3.47
22 07 19 00-1105	LF		18" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	29.15	3.53
22 07 19 00-1106	LF		19" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	30.18	3.59
22 07 19 00-1107	LF		20" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	31.26	3.65
22 07 19 00-1108	LF		21" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	32.29	3.71
22 07 19 00-1109	LF		22" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	33.40	3.78
22 07 19 00-1110	LF		23" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	34.44	3.84
22 07 19 00-1111	LF		24" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	35.57	3.91
22 07 19 00-1112	LF		25" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	36.70	3.98
22 07 19 00-1113	LF		26" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	37.79	4.06
22 07 19 00-1114	LF		27" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	38.94	4.14
22 07 19 00-1115	LF		28" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	40.04	4.22
22 07 19 00-1116	LF		29" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	41.22	4.30
22 07 19 00-1117	LF		30" ID, 0.02" Polyvinyl Chloride (PVC) Insulation Jacketing	42.42	4.39
22 07 19 00-1118			30 Mil Polyvinyl Chloride (PVC) Insulation Protective Jacketing (22 07 19 00-1074)		
22 07 19 00-1119	LF		2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	9.45	1.65
22 07 19 00-1120	LF		2-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	10.31	1.72
22 07 19 00-1121	LF		3" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	11.26	1.79
22 07 19 00-1122	LF		3-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	12.12	1.87
22 07 19 00-1123	LF		4" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	13.07	1.95
22 07 19 00-1124	LF		4-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	14.04	2.05
22 07 19 00-1125	LF		5" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	15.04	2.16
22 07 19 00-1126	LF		5-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	16.10	2.27
22 07 19 00-1127	LF		6" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	17.20	2.39
22 07 19 00-1128	LF		6-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	18.08	2.46
22 07 19 00-1129	LF		7" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	18.97	2.53
22 07 19 00-1130	LF		7-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	20.01	2.62
22 07 19 00-1131	LF		8" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	20.80	2.67
22 07 19 00-1132	LF		8-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	21.60	2.72
22 07 19 00-1133	LF		9" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	22.42	2.78
22 07 19 00-1134	LF		9-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	23.24	2.83
22 07 19 00-1135	LF		10" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	24.08	2.89
22 07 19 00-1136	LF		10-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	24.91	2.95
22 07 19 00-1137	LF		11" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	25.76	3.01
22 07 19 00-1138	LF		11-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	26.61	3.07
22 07 19 00-1139	LF		12" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	27.49	3.14
22 07 19 00-1140	LF		12-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	28.43	3.21
22 07 19 00-1141	LF		13" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	29.23	3.26
22 07 19 00-1142	LF		13-1/2" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	29.83	3.26
22 07 19 00-1143	LF		14" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	30.63	3.31
22 07 19 00-1144	LF		15" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	32.05	3.36
22 07 19 00-1145	LF		16" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	33.46	3.42
22 07 19 00-1146	LF		17" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	34.89	3.47
22 07 19 00-1147	LF		18" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	36.37	3.53
22 07 19 00-1148	LF		19" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	37.82	3.59
22 07 19 00-1149	LF		20" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	39.27	3.65
22 07 19 00-1150	LF		21" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	40.72	3.71
22 07 19 00-1151	LF		22" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	42.18	3.78
22 07 19 00-1152	LF		23" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	43.65	3.84
22 07 19 00-1153	LF		24" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	45.14	3.91
22 07 19 00-1154	LF		25" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	46.70	3.98
22 07 19 00-1155	LF		26" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	48.20	4.06



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-1156	LF		27" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	49.71	4.14
22 07 19 00-1157	LF		28" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	51.24	4.22
22 07 19 00-1158	LF		29" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	52.78	4.30
22 07 19 00-1159	LF		30" ID, 0.03" Polyvinyl Chloride (PVC) Insulation Jacketing	54.33	4.39
22 07 19 00-1160 Polyvinyl Chloride (PVC) Insulation Protective Jacketing For Fittings (22 07 19 00-					
1074)					
22 07 19 00-1161	EA		1-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	16.05	3.18
22 07 19 00-1162	EA		2" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	17.33	3.31
22 07 19 00-1163	EA		2-1/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	18.02	3.36
22 07 19 00-1164	EA		2-1/2" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	18.72	3.42
22 07 19 00-1165	EA		2-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	19.47	3.50
22 07 19 00-1166	EA		3" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	20.13	3.59
22 07 19 00-1167	EA		3-3/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	21.40	3.71
22 07 19 00-1168	EA		3-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	22.57	3.81
22 07 19 00-1169	EA		4-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	24.92	3.91
22 07 19 00-1170	EA		4-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	27.58	4.10
22 07 19 00-1171	EA		5-1/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	30.27	4.30
22 07 19 00-1172	EA		5-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	35.32	4.53
22 07 19 00-1173	EA		6-1/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	47.83	4.79
22 07 19 00-1174	EA		6-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	50.00	4.95
22 07 19 00-1175	EA		7-1/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	58.11	5.06
22 07 19 00-1176	EA		7-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	60.45	5.19
22 07 19 00-1177	EA		8-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	72.62	5.38
22 07 19 00-1178	EA		9-3/4" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	90.60	5.59
22 07 19 00-1179	EA		10-7/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	99.40	5.81
22 07 19 00-1180	EA		11-7/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	111.57	6.06
22 07 19 00-1181	EA		12-7/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	135.57	6.33
22 07 19 00-1182	EA		14-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	152.10	6.52
22 07 19 00-1183	EA		15-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	162.31	6.72
22 07 19 00-1184	EA		16-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	175.14	6.83
22 07 19 00-1185	EA		17-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	191.76	6.94
22 07 19 00-1186	EA		18-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	239.78	7.05
22 07 19 00-1187	EA		19-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	315.89	7.17
22 07 19 00-1188	EA		20-1/8" ID, Polyvinyl Chloride (PVC) 90 Degree Elbow Insulation Jacketing	398.30	7.29
22 07 19 00-1189	EA		1-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	16.05	3.18
22 07 19 00-1190	EA		2" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	17.33	3.31
22 07 19 00-1191	EA		2-1/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	18.02	3.36
22 07 19 00-1192	EA		2-1/2" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	18.72	3.42
22 07 19 00-1193	EA		2-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	19.47	3.50
22 07 19 00-1194	EA		3" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	20.13	3.59
22 07 19 00-1195	EA		3-3/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	21.40	3.71
22 07 19 00-1196	EA		3-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	22.57	3.81
22 07 19 00-1197	EA		4-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	24.92	3.91
22 07 19 00-1198	EA		4-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	27.58	4.10
22 07 19 00-1199	EA		5-1/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	30.27	4.30
22 07 19 00-1200	EA		5-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	35.32	4.53
22 07 19 00-1201	EA		6-1/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	47.83	4.79
22 07 19 00-1202	EA		6-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	50.00	4.95
22 07 19 00-1203	EA		7-1/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	58.11	5.06
22 07 19 00-1204	EA		7-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	60.45	5.19
22 07 19 00-1205	EA		8-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	72.62	5.38
22 07 19 00-1206	EA		9-3/4" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	90.60	5.59
22 07 19 00-1207	EA		10-7/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	99.40	5.81
22 07 19 00-1208	EA		11-7/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	108.20	6.06
22 07 19 00-1209	EA		12-7/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	119.02	6.33
22 07 19 00-1210	EA		14-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	133.14	6.52
22 07 19 00-1211	EA		15-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	141.79	6.72
22 07 19 00-1212	EA		16-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	158.53	6.83
22 07 19 00-1213	EA		17-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	175.51	6.94
22 07 19 00-1214	EA		18-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	208.78	7.05
22 07 19 00-1215	EA		19-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	274.97	7.17
22 07 19 00-1216	EA		20-1/8" ID, Polyvinyl Chloride (PVC) 45 Degree Elbow Insulation Jacketing	308.14	7.29
22 07 19 00-1217	EA		1-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	24.19	4.48
22 07 19 00-1218	EA		2" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	25.40	4.57
22 07 19 00-1219	EA		2-1/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	26.61	4.72
22 07 19 00-1220	EA		2-1/2" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	27.98	4.89
22 07 19 00-1221	EA		2-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	29.52	5.06
22 07 19 00-1222	EA		3" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	31.03	5.25
22 07 19 00-1223	EA		3-3/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	33.35	5.45
22 07 19 00-1224	EA		3-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	35.77	5.66
22 07 19 00-1225	EA		4-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	39.10	5.89
22 07 19 00-1226	EA		4-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	43.91	6.15
22 07 19 00-1227	EA		5-1/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	48.92	6.42
22 07 19 00-1228	EA		5-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	58.20	6.83
22 07 19 00-1229	EA		6-1/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	69.25	7.17
22 07 19 00-1230	EA		6-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	79.37	7.29
22 07 19 00-1231	EA		7-1/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	111.32	7.55
22 07 19 00-1232	EA		7-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	120.83	7.97
22 07 19 00-1233	EA		8-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	141.31	8.27
22 07 19 00-1234	EA		9-3/4" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing	162.02	8.60



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 07 19 00-1235	EA		10-7/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing.....	164.95	8.97
22 07 19 00-1236	EA		11-7/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing.....	190.05	9.16
22 07 19 00-1237	EA		12-7/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing.....	195.17	9.35
22 07 19 00-1238	EA		14-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing.....	210.44	9.56
22 07 19 00-1239	EA		15-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing.....	225.58	9.78
22 07 19 00-1240	EA		16-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing.....	240.86	10.00
22 07 19 00-1241	EA		17-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing.....	256.03	10.25
22 07 19 00-1242	EA		18-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing.....	278.70	10.60
22 07 19 00-1243	EA		19-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing.....	301.29	10.76
22 07 19 00-1244	EA		20-1/8" ID, Polyvinyl Chloride (PVC) Tee Insulation Jacketing.....	328.69	11.03
22 07 19 00-1245	EA		3/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	38.47	3.07
22 07 19 00-1246	EA		1" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	38.47	3.07
22 07 19 00-1247	EA		1-1/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	45.90	3.18
22 07 19 00-1248	EA		1-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	45.90	3.18
22 07 19 00-1249	EA		2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	55.54	3.31
22 07 19 00-1250	EA		2-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	71.85	3.45
22 07 19 00-1251	EA		3" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	79.41	3.59
22 07 19 00-1252	EA		3-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	90.26	3.74
22 07 19 00-1253	EA		4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	99.55	3.91
22 07 19 00-1254	EA		5" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	121.51	4.30
22 07 19 00-1255	EA		6" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	173.20	4.79
22 07 19 00-1256	EA		8" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	189.32	5.38
22 07 19 00-1257	EA		10" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	237.64	5.73
22 07 19 00-1258	EA		12" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	334.07	6.33
22 07 19 00-1259	EA		14" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	335.78	6.62
22 07 19 00-1260	EA		16" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	447.97	6.83
22 07 19 00-1261	EA		18" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 90 Degree Elbow Insulation Jacketing.....	606.74	7.05
22 07 19 00-1262	EA		3/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	35.58	3.07
22 07 19 00-1263	EA		1" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	35.58	3.07
22 07 19 00-1264	EA		1-1/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	42.41	3.18
22 07 19 00-1265	EA		1-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	42.41	3.18
22 07 19 00-1266	EA		2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	59.82	3.31
22 07 19 00-1267	EA		2-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	65.47	3.45
22 07 19 00-1268	EA		3" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	72.43	3.59
22 07 19 00-1269	EA		3-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	76.24	3.74
22 07 19 00-1270	EA		4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	90.28	3.91
22 07 19 00-1271	EA		5" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	110.02	4.30
22 07 19 00-1272	EA		6" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	156.29	4.79
22 07 19 00-1273	EA		8" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	170.78	5.38
22 07 19 00-1274	EA		10" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	214.04	5.73
22 07 19 00-1275	EA		12" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	300.30	6.33
22 07 19 00-1276	EA		14" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	384.17	6.62
22 07 19 00-1277	EA		16" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	460.67	6.83
22 07 19 00-1278	EA		18" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover 45 Degree Elbow Insulation Jacketing.....	539.69	7.05
22 07 19 00-1279	EA		3/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	52.64	4.62
22 07 19 00-1280	EA		1" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	52.64	4.62
22 07 19 00-1281	EA		1-1/4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	62.21	4.79
22 07 19 00-1282	EA		1-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	62.21	4.79
22 07 19 00-1283	EA		2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	87.74	4.95
22 07 19 00-1284	EA		2-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	96.08	5.12
22 07 19 00-1285	EA		3" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	106.08	5.38
22 07 19 00-1286	EA		3-1/2" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	111.97	5.59
22 07 19 00-1287	EA		4" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	132.99	5.89
22 07 19 00-1288	EA		5" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	146.24	6.42
22 07 19 00-1289	EA		6" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	207.01	7.17
22 07 19 00-1290	EA		8" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	225.19	7.97
22 07 19 00-1291	EA		10" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	313.57	8.60
22 07 19 00-1292	EA		12" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	438.69	9.35
22 07 19 00-1293	EA		14" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	524.71	10.00
22 07 19 00-1294	EA		16" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	622.39	10.25
22 07 19 00-1295	EA		18" ID, Polyvinyl Chloride (PVC) Mechanical Grooved Fitting Cover Tee Insulation Jacketing.....	682.49	10.50

22 07 19 00-1296 Insulation Foam Rubber (22 07 19)

22 07 19 00-1297 Covering 4x6 Sheet (22 07 19 00-1296)

22 07 19 00-1298	SF	1" Thick Foam Rubber Sheet Insulation	23.00	7.64

22 10 Plumbing Piping (22)

Note: The demolition price for only the length of pipe (LF) shall be used for lengths (LF) of pipe removal which exclude the fittings, valves, and insulation. The demolition price for individual fittings, valves, and insulation shall not be used in conjunction with pipe (LF) demolition tasks.

22 11 Facility Water Distribution (22 10)

22 11 16 Domestic Water Piping (22 11)

Note: The demolition price for only the length of pipe (LF) shall be used for lengths (LF) of pipe removal which exclude the fittings, valves, and insulation. The demolition price for individual fittings, valves, and insulation shall not be used in conjunction with pipe (LF) demolition tasks. See CSI section 23 21 13 00-0000 for black steel piping and fitting.



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 11 16 00-0001	Galvanized Steel Pipe Assemblies (22 11 16)		
	Note: (ASTM A-53) Threaded and coupled. Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Includes cutting and threading to length where necessary. Not for use where detail is available.		
22 11 16 00-0002	LF 1/2" Schedule 40 Threaded Galvanized Steel Pipe With 150 LB Malleable Iron Fitting Assembly	19.96	4.10
	Note: Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
	For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add		
		5.58	
	For ASTM 120, Deduct		
		-0.95	
	For Work In Restricted Working Space, Add		
		4.08	
22 11 16 00-0003	LF 3/4" Schedule 40 Threaded Galvanized Steel Pipe With 150 LB Malleable Iron Fitting Assembly	22.20	4.41
	Note: Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
	For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add		
		6.39	
	For ASTM 120, Deduct		
		-1.17	
	For Work In Restricted Working Space, Add		
		4.32	
22 11 16 00-0004	LF 1" Schedule 40 Threaded Galvanized Steel Pipe With 150 LB Malleable Iron Fitting Assembly	25.65	4.83
	Note: Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
	For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add		
		7.69	
	For ASTM 120, Deduct		
		-1.54	
	For Work In Restricted Working Space, Add		
		4.62	
22 11 16 00-0005	LF 1-1/4" Schedule 40 Threaded Galvanized Steel Pipe With 150 LB Malleable Iron Fitting Assembly	30.99	5.03
	Note: Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
	For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add		
		9.86	
	For ASTM 120, Deduct		
		-2.20	
	For Work In Restricted Working Space, Add		
		4.90	
22 11 16 00-0006	LF 1-1/2" Schedule 40 Threaded Galvanized Steel Pipe With 150 LB Malleable Iron Fitting Assembly	33.68	5.96
	Note: Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
	For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add		
		10.89	
	For ASTM 120, Deduct		
		-2.49	
	For Work In Restricted Working Space, Add		
		5.12	
22 11 16 00-0007	LF 2" Schedule 40 Threaded Galvanized Steel Pipe With 150 LB Malleable Iron Fitting Assembly	41.17	7.18
	Note: Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
	For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add		
		13.68	
	For ASTM 120, Deduct		
		-3.27	
	For Work In Restricted Working Space, Add		
		5.82	
22 11 16 00-0008	LF 2-1/2" Schedule 40 Threaded Galvanized Steel Pipe With 150 LB Malleable Iron Fitting Assembly	62.16	8.51
	Note: Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
	For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add		
		22.29	
	For ASTM 120, Deduct		
		-5.91	
	For Work In Restricted Working Space, Add		
		6.82	
22 11 16 00-0009	LF 3" Schedule 40 Threaded Galvanized Steel Pipe With 150 LB Malleable Iron Fitting Assembly	77.11	11.39
	Note: Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
	For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add		
		27.81	
	For ASTM 120, Deduct		
		-7.43	
	For Work In Restricted Working Space, Add		
		8.27	
22 11 16 00-0010	LF 4" Schedule 40 Threaded Galvanized Steel Pipe With 150 LB Malleable Iron Fitting Assembly	123.10	13.45
	Note: Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
	For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add		
		47.54	
	For ASTM 120, Deduct		
		-13.75	
	For Work In Restricted Working Space, Add		
		9.43	
22 11 16 00-0011	LF 5" Schedule 40 Threaded Galvanized Steel Pipe With 150 LB Malleable Iron Fitting Assembly	228.93	17.20
	Note: Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
	For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add		
		93.52	
	For ASTM 120, Deduct		
		-28.64	
	For Work In Restricted Working Space, Add		
		11.39	
22 11 16 00-0012	LF 6" Schedule 40 Threaded Galvanized Steel Pipe With 150 LB Malleable Iron Fitting Assembly	265.59	20.34
	Note: Includes all hangers and all galvanized malleable iron fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
	For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add		
		108.73	
	For ASTM 120, Deduct		
		-33.37	
	For Work In Restricted Working Space, Add		
		12.95	
22 11 16 00-0013	Galvanized Steel Pipe And Threaded Fittings (22 11 16)		
	Note: (ASTM A-53) Threaded and coupled, schedule 40. Excludes hangers, elbow, tee, or reducer fittings.		
22 11 16 00-0014	Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe (22 11 16 00-0013)		
	Note: ASTM A-53. Welded pipe has a weld bead on the inside. Includes coupling. Includes cutting and threading to length where necessary.		
22 11 16 00-0015	LF 1/2" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	9.65	4.10
	For Schedule 80 Pipe, Add		
		2.27	
	For ASTM 120, Deduct		
		-0.51	
	For Work In Restricted Working Space, Add		
		1.87	
22 11 16 00-0016	LF 3/4" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	11.15	4.41
	For Schedule 80 Pipe, Add		
		2.84	
	For ASTM 120, Deduct		
		-0.68	
	For Work In Restricted Working Space, Add		
		1.99	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0017	LF		1" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	13.90	4.83
			For Schedule 80 Pipe, Add	3.95	
			For ASTM 120, Deduct	-1.01	
			For Work In Restricted Working Space, Add	2.15	
22 11 16 00-0018	LF		1-1/4" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	16.71	5.03
			For Schedule 80 Pipe, Add	5.13	
			For ASTM 120, Deduct	-1.37	
			For Work In Restricted Working Space, Add	2.28	
22 11 16 00-0019	LF		1-1/2" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	19.82	5.96
			For Schedule 80 Pipe, Add	6.12	
			For ASTM 120, Deduct	-1.64	
			For Work In Restricted Working Space, Add	2.68	
22 11 16 00-0020	LF		2" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	25.43	7.18
			For Schedule 80 Pipe, Add	8.10	
			For ASTM 120, Deduct	-2.19	
			For Work In Restricted Working Space, Add	3.24	
22 11 16 00-0021	LF		2-1/2" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	36.04	8.51
			For Schedule 80 Pipe, Add	12.42	
			For ASTM 120, Deduct	-3.48	
			For Work In Restricted Working Space, Add	3.85	
22 11 16 00-0022	LF		3" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	47.49	11.39
			For Schedule 80 Pipe, Add	16.30	
			For ASTM 120, Deduct	-4.56	
			For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0023	LF		4" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	63.50	13.45
			For Schedule 80 Pipe, Add	22.79	
			For ASTM 120, Deduct	-6.49	
			For Work In Restricted Working Space, Add	6.07	
22 11 16 00-0024	LF		5" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	83.77	17.20
			For Schedule 80 Pipe, Add	30.42	
			For ASTM 120, Deduct	-8.70	
			For Work In Restricted Working Space, Add	7.73	
22 11 16 00-0025	LF		6" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	105.72	20.34
			For Schedule 80 Pipe, Add	39.17	
			For ASTM 120, Deduct	-11.29	
			For Work In Restricted Working Space, Add	9.14	
22 11 16 00-0026	LF		8" Schedule 40, Continuous Weld, Threaded And Coupled, Galvanized Steel Pipe	118.10	24.58
			For Schedule 80 Pipe, Add	42.71	
			For ASTM 120, Deduct	-12.20	
			For Work In Restricted Working Space, Add	11.04	
22 11 16 00-0027			Seamless, Threaded And Coupled, Galvanized Steel Pipe (22 11 16 00-0013)		
			Note: ASTM A-83, Includes coupling. Includes cutting and threading to length where necessary.		
22 11 16 00-0028	LF		1/2" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	15.63	4.10
			For Schedule 80 Pipe, Add	5.14	
			For ASTM 120, Deduct	-1.41	
			For Work In Restricted Working Space, Add	1.87	
22 11 16 00-0029	LF		3/4" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	17.89	4.41
			For Schedule 80 Pipe, Add	6.07	
			For ASTM 120, Deduct	-1.69	
			For Work In Restricted Working Space, Add	1.99	
22 11 16 00-0030	LF		1" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	20.28	4.83
			For Schedule 80 Pipe, Add	7.01	
			For ASTM 120, Deduct	-1.97	
			For Work In Restricted Working Space, Add	2.15	
22 11 16 00-0031	LF		1-1/4" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	24.07	5.03
			For Schedule 80 Pipe, Add	8.67	
			For ASTM 120, Deduct	-2.47	
			For Work In Restricted Working Space, Add	2.28	
22 11 16 00-0032	LF		1-1/2" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	27.73	5.96
			For Schedule 80 Pipe, Add	9.92	
			For ASTM 120, Deduct	-2.82	
			For Work In Restricted Working Space, Add	2.68	
22 11 16 00-0033	LF		2" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	32.23	7.18
			For Schedule 80 Pipe, Add	11.37	
			For ASTM 120, Deduct	-3.21	
			For Work In Restricted Working Space, Add	3.24	
22 11 16 00-0034	LF		2-1/2" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	48.69	8.51
			For Schedule 80 Pipe, Add	18.50	
			For ASTM 120, Deduct	-5.38	
			For Work In Restricted Working Space, Add	3.85	
22 11 16 00-0035	LF		3" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	60.95	11.39
			For Schedule 80 Pipe, Add	22.76	
			For ASTM 120, Deduct	-6.58	
			For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0036	LF		4" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	82.93	13.45
			For Schedule 80 Pipe, Add	32.12	
			For ASTM 120, Deduct	-9.40	
			For Work In Restricted Working Space, Add	6.07	
22 11 16 00-0037	LF		5" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	107.57	17.20
			For Schedule 80 Pipe, Add	41.85	
			For ASTM 120, Deduct	-12.27	
			For Work In Restricted Working Space, Add	7.73	

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0038	LF		6" Schedule 40, Seamless, Threaded Galvanized Steel Pipe	135.13	20.34
			For Schedule 80 Pipe, Add	53.29	
			For ASTM 120, Deduct	-15.70	
			For Work In Restricted Working Space, Add	9.14	
22 11 16 00-0039			Galvanized Malleable Iron 90 Degree Elbows (22 11 16 00-0013)		
22 11 16 00-0040	EA		1/2", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	33.89	18.26
			For 300 LB Rating, Add	23.84	
			For ASTM 120, Deduct	-0.98	
			For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0041	EA		3/4", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	38.65	20.42
			For 300 LB Rating, Add	29.11	
			For ASTM 120, Deduct	-1.20	
			For Work In Restricted Working Space, Add	9.19	
22 11 16 00-0042	EA		1", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	49.07	22.77
			For 300 LB Rating, Add	52.67	
			For ASTM 120, Deduct	-2.23	
			For Work In Restricted Working Space, Add	10.26	
22 11 16 00-0043	EA		1-1/4", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	62.20	25.86
			For 300 LB Rating, Add	82.19	
			For ASTM 120, Deduct	-3.52	
			For Work In Restricted Working Space, Add	11.61	
22 11 16 00-0044	EA		1-1/2", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	74.32	29.14
			For 300 LB Rating, Add	106.86	
			For ASTM 120, Deduct	-4.60	
			For Work In Restricted Working Space, Add	13.10	
22 11 16 00-0045	EA		2", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	105.68	37.04
			For 300 LB Rating, Add	174.08	
			For ASTM 120, Deduct	-7.53	
			For Work In Restricted Working Space, Add	16.64	
22 11 16 00-0046	EA		2-1/2", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	213.49	54.79
			For 300 LB Rating, Add	451.72	
			For ASTM 120, Deduct	-19.71	
			For Work In Restricted Working Space, Add	24.62	
22 11 16 00-0047	EA		3", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	324.66	72.03
			For 300 LB Rating, Add	743.12	
			For ASTM 120, Deduct	-32.50	
			For Work In Restricted Working Space, Add	32.40	
22 11 16 00-0048	EA		4", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	500.17	78.71
			For 300 LB Rating, Add	1,306.36	
			For ASTM 120, Deduct	-57.32	
			For Work In Restricted Working Space, Add	35.41	
22 11 16 00-0049	EA		5", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	1,773.43	82.15
			For 300 LB Rating, Add	5,618.31	
			For ASTM 120, Deduct	-247.54	
			For Work In Restricted Working Space, Add	36.95	
22 11 16 00-0050	EA		6", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	1,650.14	85.89
			For 300 LB Rating, Add	5,180.38	
			For ASTM 120, Deduct	-228.21	
			For Work In Restricted Working Space, Add	38.63	
22 11 16 00-0051	EA		8", 150 LB, Galvanized Malleable Iron 90 Degree Elbow	1,969.99	89.75
			For 300 LB Rating, Add	6,248.54	
			For ASTM 120, Deduct	-275.31	
			For Work In Restricted Working Space, Add	40.37	
22 11 16 00-0052			Galvanized Malleable Iron Reducing 90 Degree Elbows (22 11 16 00-0013)		
22 11 16 00-0053	EA		3/4" x 1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	42.96	19.29
			For ASTM 120, Deduct	-2.09	
			For Work In Restricted Working Space, Add	8.70	
22 11 16 00-0054	EA		1" x 3/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	50.33	21.64
			For ASTM 120, Deduct	-2.69	
			For Work In Restricted Working Space, Add	9.73	
22 11 16 00-0055	EA		1" x 1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	49.78	20.52
			For ASTM 120, Deduct	-2.85	
			For Work In Restricted Working Space, Add	9.23	
22 11 16 00-0056	EA		1-1/4" x 1", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	66.50	24.31
			For ASTM 120, Deduct	-4.51	
			For Work In Restricted Working Space, Add	10.94	
22 11 16 00-0057	EA		1-1/4" x 3/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	70.75	23.09
			For ASTM 120, Deduct	-5.41	
			For Work In Restricted Working Space, Add	10.40	
22 11 16 00-0058	EA		1-1/4" x 1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	71.27	22.06
			For ASTM 120, Deduct	-5.73	
			For Work In Restricted Working Space, Add	9.91	
22 11 16 00-0059	EA		1-1/2" x 1-1/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	89.18	27.50
			For ASTM 120, Deduct	-7.20	
			For Work In Restricted Working Space, Add	12.35	
22 11 16 00-0060	EA		1-1/2" x 3/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	86.93	25.96
			For ASTM 120, Deduct	-7.20	
			For Work In Restricted Working Space, Add	11.68	
22 11 16 00-0061	EA		1-1/2" x 3/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	85.14	24.73
			For ASTM 120, Deduct	-7.20	
			For Work In Restricted Working Space, Add	11.14	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0062	EA		2" x 1-1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	105.64	33.04
			For ASTM 120, Deduct	-8.41	
			For Work In Restricted Working Space, Add	14.87	
22 11 16 00-0063	EA		2" x 1-1/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	111.38	31.40
			For ASTM 120, Deduct	-9.64	
			For Work In Restricted Working Space, Add	14.13	
22 11 16 00-0064	EA		2" x 1", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	111.54	29.86
			For ASTM 120, Deduct	-10.07	
			For Work In Restricted Working Space, Add	13.45	
22 11 16 00-0065	EA		2" x 3/4", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	93.65	28.73
			For ASTM 120, Deduct	-7.59	
			For Work In Restricted Working Space, Add	12.92	
22 11 16 00-0066	EA		2-1/2" x 2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	258.85	45.87
			For ASTM 120, Deduct	-28.57	
			For Work In Restricted Working Space, Add	20.63	
22 11 16 00-0067	EA		2-1/2" x 1-1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	274.65	41.97
			For ASTM 120, Deduct	-31.77	
			For Work In Restricted Working Space, Add	18.86	
22 11 16 00-0068	EA		3" x 2-1/2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	440.51	63.41
			For ASTM 120, Deduct	-51.82	
			For Work In Restricted Working Space, Add	28.51	
22 11 16 00-0069	EA		3" x 2", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	381.79	54.48
			For ASTM 120, Deduct	-45.01	
			For Work In Restricted Working Space, Add	24.52	
22 11 16 00-0070	EA		4" x 3", 150 LB, Galvanized Malleable Iron Reducing 90 Degree Elbow	894.03	74.87
			For ASTM 120, Deduct	-117.26	
			For Work In Restricted Working Space, Add	33.68	
22 11 16 00-0071			Galvanized Malleable Iron 45 Degree Elbow (22 11 16 00-0013)		
22 11 16 00-0072	EA		1/2", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	36.28	18.26
			For 300 LB Rating, Add	31.97	
			For ASTM 120, Deduct	-1.34	
			For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0073	EA		3/4", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	43.47	20.42
			For 300 LB Rating, Add	45.49	
			For ASTM 120, Deduct	-1.93	
			For Work In Restricted Working Space, Add	9.19	
22 11 16 00-0074	EA		1", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	48.68	22.77
			For 300 LB Rating, Add	51.28	
			For ASTM 120, Deduct	-2.17	
			For Work In Restricted Working Space, Add	10.26	
22 11 16 00-0075	EA		1-1/4", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	65.78	25.86
			For 300 LB Rating, Add	94.36	
			For ASTM 120, Deduct	-4.06	
			For Work In Restricted Working Space, Add	11.61	
22 11 16 00-0076	EA		1-1/2", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	75.46	29.14
			For 300 LB Rating, Add	110.74	
			For ASTM 120, Deduct	-4.77	
			For Work In Restricted Working Space, Add	13.10	
22 11 16 00-0077	EA		2", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	102.51	37.04
			For 300 LB Rating, Add	163.30	
			For ASTM 120, Deduct	-7.06	
			For Work In Restricted Working Space, Add	16.64	
22 11 16 00-0078	EA		2-1/2", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	245.78	54.79
			For 300 LB Rating, Add	561.50	
			For ASTM 120, Deduct	-24.56	
			For Work In Restricted Working Space, Add	24.62	
22 11 16 00-0079	EA		3", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	346.08	72.03
			For 300 LB Rating, Add	815.95	
			For ASTM 120, Deduct	-35.71	
			For Work In Restricted Working Space, Add	32.40	
22 11 16 00-0080	EA		4", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	517.17	78.71
			For 300 LB Rating, Add	1,364.16	
			For ASTM 120, Deduct	-59.87	
			For Work In Restricted Working Space, Add	35.41	
22 11 16 00-0081	EA		5", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	1,736.02	82.15
			For 300 LB Rating, Add	5,491.11	
			For ASTM 120, Deduct	-241.93	
			For Work In Restricted Working Space, Add	36.95	
22 11 16 00-0082	EA		6", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	2,073.50	85.89
			For 300 LB Rating, Add	6,619.81	
			For ASTM 120, Deduct	-291.71	
			For Work In Restricted Working Space, Add	38.63	
22 11 16 00-0083	EA		8", 150 LB, Galvanized Malleable Iron 45 Degree Elbow	2,477.40	89.75
			For 300 LB Rating, Add	7,973.73	
			For ASTM 120, Deduct	-351.43	
			For Work In Restricted Working Space, Add	40.37	
22 11 16 00-0084			Galvanized Malleable Iron Tees (22 11 16 00-0013)		
22 11 16 00-0085	EA		1/2", 150 LB, Galvanized Malleable Iron Tee	42.66	22.77
			For 300 LB Rating, Add	30.82	
			For ASTM 120, Deduct	-1.27	
			For Work In Restricted Working Space, Add	10.26	

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0086	EA	3/4"	150 LB, Galvanized Malleable Iron Tee.....	53.42	26.37
			For 300 LB Rating, Add	49.83	
			For ASTM 120, Deduct	-2.09	
			For Work In Restricted Working Space, Add	11.84	
22 11 16 00-0087	EA	1"	150 LB, Galvanized Malleable Iron Tee.....	69.20	31.09
			For 300 LB Rating, Add	79.54	
			For ASTM 120, Deduct	-3.39	
			For Work In Restricted Working Space, Add	13.99	
22 11 16 00-0088	EA	1-1/4"	150 LB, Galvanized Malleable Iron Tee.....	91.28	37.04
			For 300 LB Rating, Add	125.12	
			For ASTM 120, Deduct	-5.37	
			For Work In Restricted Working Space, Add	16.64	
22 11 16 00-0089	EA	1-1/2"	150 LB, Galvanized Malleable Iron Tee.....	110.71	44.12
			For 300 LB Rating, Add	155.34	
			For ASTM 120, Deduct	-6.68	
			For Work In Restricted Working Space, Add	19.86	
22 11 16 00-0090	EA	2"	150 LB, Galvanized Malleable Iron Tee.....	154.45	54.79
			For 300 LB Rating, Add	250.98	
			For ASTM 120, Deduct	-10.86	
			For Work In Restricted Working Space, Add	24.62	
22 11 16 00-0091	EA	2-1/2"	150 LB, Galvanized Malleable Iron Tee.....	292.98	59.51
			For 300 LB Rating, Add	698.14	
			For ASTM 120, Deduct	-30.56	
			For Work In Restricted Working Space, Add	26.77	
22 11 16 00-0092	EA	3"	150 LB, Galvanized Malleable Iron Tee.....	346.95	72.03
			For 300 LB Rating, Add	818.91	
			For ASTM 120, Deduct	-35.84	
			For Work In Restricted Working Space, Add	32.40	
22 11 16 00-0093	EA	4"	150 LB, Galvanized Malleable Iron Tee.....	714.37	99.46
			For 300 LB Rating, Add	1,930.86	
			For ASTM 120, Deduct	-84.79	
			For Work In Restricted Working Space, Add	44.73	
22 11 16 00-0094	EA	5"	150 LB, Galvanized Malleable Iron Tee.....	1,953.93	118.07
			For 300 LB Rating, Add	6,052.02	
			For ASTM 120, Deduct	-266.53	
			For Work In Restricted Working Space, Add	53.12	
22 11 16 00-0095	EA	6"	150 LB, Galvanized Malleable Iron Tee.....	2,217.73	134.96
			For 300 LB Rating, Add	6,864.47	
			For ASTM 120, Deduct	-302.31	
			For Work In Restricted Working Space, Add	60.70	
22 11 16 00-0096	EA	8"	150 LB, Galvanized Malleable Iron Tee.....	2,637.48	160.26
			For 300 LB Rating, Add	8,156.41	
			For ASTM 120, Deduct	-359.20	
			For Work In Restricted Working Space, Add	72.85	
22 11 16 00-0097			Galvanized Malleable Iron Reducing Tee (22 11 16 00-0013)		
22 11 16 00-0098	EA	1/2"	150 LB, Galvanized Malleable Iron Reducing Tee.....	53.88	22.77
			For 300 LB Rating, Add	68.96	
			For ASTM 120, Deduct	-2.95	
			For Work In Restricted Working Space, Add	10.26	
22 11 16 00-0099	EA	3/4"	150 LB, Galvanized Malleable Iron Reducing Tee.....	58.86	26.37
			For 300 LB Rating, Add	68.33	
			For ASTM 120, Deduct	-2.91	
			For Work In Restricted Working Space, Add	11.84	
22 11 16 00-0100	EA	1"	150 LB, Galvanized Malleable Iron Reducing Tee.....	73.90	31.09
			For 300 LB Rating, Add	95.52	
			For ASTM 120, Deduct	-4.09	
			For Work In Restricted Working Space, Add	13.99	
22 11 16 00-0101	EA	1-1/4"	150 LB, Galvanized Malleable Iron Reducing Tee.....	97.75	37.04
			For 300 LB Rating, Add	147.11	
			For ASTM 120, Deduct	-6.34	
			For Work In Restricted Working Space, Add	16.64	
22 11 16 00-0102	EA	1-1/2"	150 LB, Galvanized Malleable Iron Reducing Tee.....	118.41	44.12
			For 300 LB Rating, Add	181.52	
			For ASTM 120, Deduct	-7.83	
			For Work In Restricted Working Space, Add	19.86	
22 11 16 00-0103	EA	2"	150 LB, Galvanized Malleable Iron Reducing Tee.....	158.33	54.79
			For 300 LB Rating, Add	264.17	
			For ASTM 120, Deduct	-11.44	
			For Work In Restricted Working Space, Add	24.62	
22 11 16 00-0104	EA	2-1/2"	150 LB, Galvanized Malleable Iron Reducing Tee.....	358.81	59.71
			For 300 LB Rating, Add	921.02	
			For ASTM 120, Deduct	-40.40	
			For Work In Restricted Working Space, Add	26.85	
22 11 16 00-0105	EA	3"	150 LB, Galvanized Malleable Iron Reducing Tee.....	458.99	73.16
			For 300 LB Rating, Add	1,194.13	
			For ASTM 120, Deduct	-52.39	
			For Work In Restricted Working Space, Add	32.91	
22 11 16 00-0106	EA	4"	150 LB, Galvanized Malleable Iron Reducing Tee.....	1,161.60	99.46
			For 300 LB Rating, Add	3,451.45	
			For ASTM 120, Deduct	-151.88	
			For Work In Restricted Working Space, Add	44.73	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0107	EA		5", 150 LB, Galvanized Malleable Iron Reducing Tee.....	2,524.67	118.07
			For 300 LB Rating, Add	7,992.53	
			For ASTM 120, Deduct	-352.14	
			For Work In Restricted Working Space, Add	53.12	
22 11 16 00-0108	EA		6", 150 LB, Galvanized Malleable Iron Reducing Tee.....	2,866.07	134.96
			For 300 LB Rating, Add	9,068.82	
			For ASTM 120, Deduct	-399.56	
			For Work In Restricted Working Space, Add	60.70	
22 11 16 00-0109	EA		8", 150 LB, Galvanized Malleable Iron Reducing Tee.....	3,444.46	154.98
			For 300 LB Rating, Add	10,933.98	
			For ASTM 120, Deduct	-481.77	
			For Work In Restricted Working Space, Add	69.81	
22 11 16 00-0110			Galvanized Malleable Iron Couplings (22 11 16 00-0013)		
22 11 16 00-0111	EA		1/2", 150 LB, Galvanized Malleable Iron Coupling.....	37.99	18.26
			For 300 LB Rating, Add	37.78	
			For ASTM 120, Deduct	-1.59	
			For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0112	EA		3/4", 150 LB, Galvanized Malleable Iron Coupling.....	42.88	20.42
			For 300 LB Rating, Add	43.49	
			For ASTM 120, Deduct	-1.84	
			For Work In Restricted Working Space, Add	9.19	
22 11 16 00-0113	EA		1", 150 LB, Galvanized Malleable Iron Coupling.....	54.27	22.77
			For 300 LB Rating, Add	70.29	
			For ASTM 120, Deduct	-3.01	
			For Work In Restricted Working Space, Add	10.26	
22 11 16 00-0114	EA		1-1/4", 150 LB, Galvanized Malleable Iron Coupling.....	67.02	25.86
			For 300 LB Rating, Add	98.58	
			For ASTM 120, Deduct	-4.25	
			For Work In Restricted Working Space, Add	11.61	
22 11 16 00-0115	EA		1-1/2", 150 LB, Galvanized Malleable Iron Coupling.....	75.83	29.14
			For 300 LB Rating, Add	112.00	
			For ASTM 120, Deduct	-4.83	
			For Work In Restricted Working Space, Add	13.10	
22 11 16 00-0116	EA		2", 150 LB, Galvanized Malleable Iron Coupling.....	102.50	37.04
			For 300 LB Rating, Add	163.26	
			For ASTM 120, Deduct	-7.06	
			For Work In Restricted Working Space, Add	16.64	
22 11 16 00-0117	EA		2-1/2", 150 LB, Galvanized Malleable Iron Coupling.....	226.07	54.79
			For 300 LB Rating, Add	494.49	
			For ASTM 120, Deduct	-21.60	
			For Work In Restricted Working Space, Add	24.62	
22 11 16 00-0118	EA		3", 150 LB, Galvanized Malleable Iron Coupling.....	300.45	72.03
			For 300 LB Rating, Add	660.81	
			For ASTM 120, Deduct	-28.87	
			For Work In Restricted Working Space, Add	32.40	
22 11 16 00-0119	EA		4", 150 LB, Galvanized Malleable Iron Coupling.....	526.75	78.71
			For 300 LB Rating, Add	1,396.73	
			For ASTM 120, Deduct	-61.31	
			For Work In Restricted Working Space, Add	35.41	
22 11 16 00-0120	EA		5", 150 LB, Galvanized Malleable Iron Coupling.....	1,274.04	82.15
			For 300 LB Rating, Add	3,920.38	
			For ASTM 120, Deduct	-172.63	
			For Work In Restricted Working Space, Add	36.95	
22 11 16 00-0121	EA		6", 150 LB, Galvanized Malleable Iron Coupling.....	1,439.93	85.89
			For 300 LB Rating, Add	4,465.67	
			For ASTM 120, Deduct	-196.67	
			For Work In Restricted Working Space, Add	38.63	
22 11 16 00-0122	EA		8", 150 LB, Galvanized Malleable Iron Coupling.....	1,714.78	89.75
			For 300 LB Rating, Add	5,380.82	
			For ASTM 120, Deduct	-237.03	
			For Work In Restricted Working Space, Add	40.37	
22 11 16 00-0123			Galvanized Malleable Iron Reducing Couplings (22 11 16 00-0013)		
22 11 16 00-0124	EA		1/2", 150 LB, Galvanized Malleable Iron Reducing Coupling.....	40.25	18.26
			For 300 LB Rating, Add	45.47	
			For ASTM 120, Deduct	-1.93	
			For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0125	EA		3/4", 150 LB, Galvanized Malleable Iron Reducing Coupling.....	44.41	20.42
			For 300 LB Rating, Add	48.69	
			For ASTM 120, Deduct	-2.07	
			For Work In Restricted Working Space, Add	9.19	
22 11 16 00-0126	EA		1", 150 LB, Galvanized Malleable Iron Reducing Coupling.....	57.18	22.77
			For 300 LB Rating, Add	80.18	
			For ASTM 120, Deduct	-3.45	
			For Work In Restricted Working Space, Add	10.26	
22 11 16 00-0127	EA		1-1/4", 150 LB, Galvanized Malleable Iron Reducing Coupling.....	68.41	25.86
			For 300 LB Rating, Add	103.30	
			For ASTM 120, Deduct	-4.46	
			For Work In Restricted Working Space, Add	11.61	

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0128	EA	1-1/2"	150 LB, Galvanized Malleable Iron Reducing Coupling.....	81.97	29.14
			For 300 LB Rating, Add	132.87	
			For ASTM 120, Deduct	-5.75	
			For Work In Restricted Working Space, Add	13.10	
22 11 16 00-0129	EA	2"	150 LB, Galvanized Malleable Iron Reducing Coupling.....	107.71	37.04
			For 300 LB Rating, Add	180.98	
			For ASTM 120, Deduct	-7.84	
			For Work In Restricted Working Space, Add	16.64	
22 11 16 00-0130	EA	2-1/2"	150 LB, Galvanized Malleable Iron Reducing Coupling.....	227.89	54.79
			For 300 LB Rating, Add	500.68	
			For ASTM 120, Deduct	-21.87	
			For Work In Restricted Working Space, Add	24.62	
22 11 16 00-0131	EA	3"	150 LB, Galvanized Malleable Iron Reducing Coupling.....	294.99	72.03
			For 300 LB Rating, Add	642.25	
			For ASTM 120, Deduct	-28.05	
			For Work In Restricted Working Space, Add	32.40	
22 11 16 00-0132	EA	4"	150 LB, Galvanized Malleable Iron Reducing Coupling.....	537.28	78.71
			For 300 LB Rating, Add	1,432.53	
			For ASTM 120, Deduct	-62.89	
			For Work In Restricted Working Space, Add	35.41	
22 11 16 00-0133	EA	5"	150 LB, Galvanized Malleable Iron Reducing Coupling.....	1,334.62	82.15
			For 300 LB Rating, Add	4,126.35	
			For ASTM 120, Deduct	-181.72	
			For Work In Restricted Working Space, Add	36.95	
22 11 16 00-0134	EA	6"	150 LB, Galvanized Malleable Iron Reducing Coupling.....	1,508.93	85.89
			For 300 LB Rating, Add	4,700.27	
			For ASTM 120, Deduct	-207.02	
			For Work In Restricted Working Space, Add	38.63	
22 11 16 00-0135	EA	8"	150 LB, Galvanized Malleable Iron Reducing Coupling.....	1,798.57	89.75
			For 300 LB Rating, Add	5,665.71	
			For ASTM 120, Deduct	-249.60	
			For Work In Restricted Working Space, Add	40.37	
22 11 16 00-0136 Galvanized Malleable Iron Caps (22 11 16 00-0013)					
22 11 16 00-0137	EA	1/2"	150 LB, Galvanized Malleable Iron Cap	15.50	8.51
			For 300 LB Rating, Add	9.85	
			For ASTM 120, Deduct	-0.40	
			For Work In Restricted Working Space, Add	3.85	
22 11 16 00-0138	EA	3/4"	150 LB, Galvanized Malleable Iron Cap	17.37	9.13
			For 300 LB Rating, Add	13.37	
			For ASTM 120, Deduct	-0.55	
			For Work In Restricted Working Space, Add	4.10	
22 11 16 00-0139	EA	1"	150 LB, Galvanized Malleable Iron Cap	20.37	10.57
			For 300 LB Rating, Add	16.52	
			For ASTM 120, Deduct	-0.69	
			For Work In Restricted Working Space, Add	4.74	
22 11 16 00-0140	EA	1-1/4"	150 LB, Galvanized Malleable Iron Cap	22.57	11.08
			For 300 LB Rating, Add	21.46	
			For ASTM 120, Deduct	-0.90	
			For Work In Restricted Working Space, Add	4.97	
22 11 16 00-0141	EA	1-1/2"	150 LB, Galvanized Malleable Iron Cap	22.19	11.08
			For 300 LB Rating, Add	20.17	
			For ASTM 120, Deduct	-0.85	
			For Work In Restricted Working Space, Add	4.97	
22 11 16 00-0142	EA	2"	150 LB, Galvanized Malleable Iron Cap	34.14	14.67
			For 300 LB Rating, Add	42.36	
			For ASTM 120, Deduct	-1.81	
			For Work In Restricted Working Space, Add	6.62	
22 11 16 00-0143	EA	2-1/2"	150 LB, Galvanized Malleable Iron Cap	54.46	18.26
			For 300 LB Rating, Add	93.78	
			For ASTM 120, Deduct	-4.07	
			For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0144	EA	3"	150 LB, Galvanized Malleable Iron Cap	71.67	22.06
			For 300 LB Rating, Add	133.12	
			For ASTM 120, Deduct	-5.79	
			For Work In Restricted Working Space, Add	9.93	
22 11 16 00-0145	EA	4"	150 LB, Galvanized Malleable Iron Cap	112.59	27.01
			For 300 LB Rating, Add	247.64	
			For ASTM 120, Deduct	-10.82	
			For Work In Restricted Working Space, Add	12.14	
22 11 16 00-0146	EA	5"	150 LB, Galvanized Malleable Iron Cap	289.99	33.79
			For 300 LB Rating, Add	817.00	
			For ASTM 120, Deduct	-35.91	
			For Work In Restricted Working Space, Add	15.18	
22 11 16 00-0147	EA	6"	150 LB, Galvanized Malleable Iron Cap	361.99	40.16
			For 300 LB Rating, Add	1,029.46	
			For ASTM 120, Deduct	-45.26	
			For Work In Restricted Working Space, Add	18.08	
22 11 16 00-0148	EA	8"	150 LB, Galvanized Malleable Iron Cap	458.30	44.88
			For 300 LB Rating, Add	1,333.50	
			For ASTM 120, Deduct	-58.65	
			For Work In Restricted Working Space, Add	20.18	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0149			Galvanized Malleable Iron FIP Threaded, Unions (22 11 16 00-0013)		
22 11 16 00-0150	EA		1/2", 150 LB, Galvanized Malleable Iron Union	64.78	22.77
			For Work In Restricted Working Space, Add	10.26	
22 11 16 00-0151	EA		3/4", 150 LB, Galvanized Malleable Iron Union	74.60	26.37
			For Work In Restricted Working Space, Add	11.84	
22 11 16 00-0152	EA		1", 150 LB, Galvanized Malleable Iron Union	92.64	31.09
			For Work In Restricted Working Space, Add	13.99	
22 11 16 00-0153	EA		1-1/4", 150 LB, Galvanized Malleable Iron Union	121.98	37.04
			For Work In Restricted Working Space, Add	16.64	
22 11 16 00-0154	EA		1-1/2", 150 LB, Galvanized Malleable Iron Union	146.79	44.12
			For Work In Restricted Working Space, Add	19.86	
22 11 16 00-0155	EA		2", 150 LB, Galvanized Malleable Iron Union	174.73	54.79
			For Work In Restricted Working Space, Add	24.62	
22 11 16 00-0156	EA		2-1/2", 150 LB, Galvanized Malleable Iron Union	443.03	80.75
			For Work In Restricted Working Space, Add	36.35	
22 11 16 00-0157	EA		3", 150 LB, Galvanized Malleable Iron Union	609.90	106.20
			For Work In Restricted Working Space, Add	47.83	
22 11 16 00-0158	EA		1/2", 250 LB, Galvanized Malleable Iron Union	96.37	22.77
			For Work In Restricted Working Space, Add	10.26	
22 11 16 00-0159	EA		3/4", 250 LB, Galvanized Malleable Iron Union	95.95	26.37
			For Work In Restricted Working Space, Add	11.84	
22 11 16 00-0160	EA		1", 250 LB, Galvanized Malleable Iron Union	116.67	31.09
			For Work In Restricted Working Space, Add	13.99	
22 11 16 00-0161	EA		1-1/4", 250 LB, Galvanized Malleable Iron Union	161.52	37.04
			For Work In Restricted Working Space, Add	16.64	
22 11 16 00-0162	EA		1-1/2", 250 LB, Galvanized Malleable Iron Union	188.31	44.12
			For Work In Restricted Working Space, Add	19.86	
22 11 16 00-0163	EA		2", 250 LB, Galvanized Malleable Iron Union	254.52	54.79
			For Work In Restricted Working Space, Add	24.62	
22 11 16 00-0164	EA		2-1/2", 250 LB, Galvanized Malleable Iron Union	574.79	80.75
			For Work In Restricted Working Space, Add	36.35	
22 11 16 00-0165	EA		3", 250 LB, Galvanized Malleable Iron Union	855.41	106.20
			For Work In Restricted Working Space, Add	47.83	
22 11 16 00-0166	EA		4", 250 LB, Galvanized Malleable Iron Union	1,265.99	116.14
			For Work In Restricted Working Space, Add	52.27	
22 11 16 00-0167	EA		1/2", 300 LB, Galvanized Malleable Iron Union	105.04	22.77
			For Work In Restricted Working Space, Add	10.26	
22 11 16 00-0168	EA		3/4", 300 LB, Galvanized Malleable Iron Union	116.28	26.37
			For Work In Restricted Working Space, Add	11.84	
22 11 16 00-0169	EA		1", 300 LB, Galvanized Malleable Iron Union	148.54	31.09
			For Work In Restricted Working Space, Add	13.99	
22 11 16 00-0170	EA		1-1/4", 300 LB, Galvanized Malleable Iron Union	197.56	37.04
			For Work In Restricted Working Space, Add	16.64	
22 11 16 00-0171	EA		1-1/2", 300 LB, Galvanized Malleable Iron Union	237.31	44.12
			For Work In Restricted Working Space, Add	19.86	
22 11 16 00-0172	EA		2", 300 LB, Galvanized Malleable Iron Union	287.46	54.79
			For Work In Restricted Working Space, Add	24.62	
22 11 16 00-0173	EA		2-1/2", 300 LB, Galvanized Malleable Iron Union	694.04	80.75
			For Work In Restricted Working Space, Add	36.35	
22 11 16 00-0174	EA		3", 300 LB, Galvanized Malleable Iron Union	1,128.31	106.20
			For Work In Restricted Working Space, Add	47.83	
22 11 16 00-0175	EA		4", 300 LB, Galvanized Malleable Iron Union	2,604.22	116.14
			For Work In Restricted Working Space, Add	52.27	
22 11 16 00-0176			Galvanized Steel Nipples (22 11 16 00-0013)		
			Note: ASTM A-53.		
22 11 16 00-0177	EA		3/8" x Close, Schedule 40 Galvanized Steel Nipple	17.48	9.74
			For Schedule 80 Nipples, Add	3.21	
			For ASTM 120, Deduct	-0.42	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0178	EA		1/2" x Close, Schedule 40 Galvanized Steel Nipple	16.94	9.74
			For Schedule 80 Nipples, Add	2.60	
			For ASTM 120, Deduct	-0.34	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0179	EA		3/4" x Close, Schedule 40 Galvanized Steel Nipple	17.43	9.74
			For Schedule 80 Nipples, Add	3.16	
			For ASTM 120, Deduct	-0.42	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0180	EA		1" x Close, Schedule 40 Galvanized Steel Nipple	19.59	10.57
			For Schedule 80 Nipples, Add	4.33	
			For ASTM 120, Deduct	-0.57	
			For Work In Restricted Working Space, Add	4.74	
22 11 16 00-0181	EA		1-1/4" x Close, Schedule 40 Galvanized Steel Nipple	22.19	11.39
			For Schedule 80 Nipples, Add	5.80	
			For ASTM 120, Deduct	-0.76	
			For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0182	EA		1-1/2" x Close, Schedule 40 Galvanized Steel Nipple	23.07	11.39
			For Schedule 80 Nipples, Add	6.81	
			For ASTM 120, Deduct	-0.90	
			For Work In Restricted Working Space, Add	5.13	

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0183	EA		2" x Close, Schedule 40 Galvanized Steel Nipple.....	30.49	14.67
			For Schedule 80 Nipples, Add	9.60	
			For ASTM 120, Deduct	-1.26	
			For Work In Restricted Working Space, Add	6.62	
22 11 16 00-0184	EA		2-1/2" x Close, Schedule 40 Galvanized Steel Nipple	52.43	18.26
			For Schedule 80 Nipples, Add	28.58	
			For ASTM 120, Deduct	-3.76	
			For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0185	EA		3" x Close, Schedule 40 Galvanized Steel Nipple.....	63.14	22.06
			For Schedule 80 Nipples, Add	34.25	
			For ASTM 120, Deduct	-4.51	
			For Work In Restricted Working Space, Add	9.93	
22 11 16 00-0186	EA		4" x Close, Schedule 40 Galvanized Steel Nipple.....	85.50	27.01
			For Schedule 80 Nipples, Add	51.33	
			For ASTM 120, Deduct	-6.75	
			For Work In Restricted Working Space, Add	12.14	
22 11 16 00-0187	EA		3/8" x 1-1/2" Long, Schedule 40 Galvanized Steel Nipple	17.89	9.74
			For Schedule 80 Nipples, Add	3.68	
			For ASTM 120, Deduct	-0.48	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0188	EA		1/2" x 1-1/2" Long, Schedule 40 Galvanized Steel Nipple	17.06	9.74
			For Schedule 80 Nipples, Add	2.74	
			For ASTM 120, Deduct	-0.36	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0189	EA		3/4" x 1-1/2" Long, Schedule 40 Galvanized Steel Nipple	17.67	9.74
			For Schedule 80 Nipples, Add	3.43	
			For ASTM 120, Deduct	-0.45	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0190	EA		3/8" x 2" Long, Schedule 40 Galvanized Steel Nipple.....	17.89	9.74
			For Schedule 80 Nipples, Add	3.68	
			For ASTM 120, Deduct	-0.48	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0191	EA		1/2" x 2" Long, Schedule 40 Galvanized Steel Nipple.....	17.06	9.74
			For Schedule 80 Nipples, Add	2.74	
			For ASTM 120, Deduct	-0.36	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0192	EA		3/4" x 2" Long, Schedule 40 Galvanized Steel Nipple.....	17.67	9.74
			For Schedule 80 Nipples, Add	3.43	
			For ASTM 120, Deduct	-0.45	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0193	EA		1" x 2" Long, Schedule 40 Galvanized Steel Nipple	20.27	10.57
			For Schedule 80 Nipples, Add	5.11	
			For ASTM 120, Deduct	-0.67	
			For Work In Restricted Working Space, Add	4.74	
22 11 16 00-0194	EA		1-1/4" x 2" Long, Schedule 40 Galvanized Steel Nipple	22.56	11.39
			For Schedule 80 Nipples, Add	6.22	
			For ASTM 120, Deduct	-0.82	
			For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0195	EA		1-1/2" x 2" Long, Schedule 40 Galvanized Steel Nipple	23.52	11.39
			For Schedule 80 Nipples, Add	7.32	
			For ASTM 120, Deduct	-0.96	
			For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0196	EA		3/8" x 2-1/2" Long, Schedule 40 Galvanized Steel Nipple	18.97	9.74
			For Schedule 80 Nipples, Add	4.91	
			For ASTM 120, Deduct	-0.65	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0197	EA		1/2" x 2-1/2" Long, Schedule 40 Galvanized Steel Nipple	17.48	9.74
			For Schedule 80 Nipples, Add	3.21	
			For ASTM 120, Deduct	-0.42	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0198	EA		3/4" x 2-1/2" Long, Schedule 40 Galvanized Steel Nipple	17.99	9.74
			For Schedule 80 Nipples, Add	3.80	
			For ASTM 120, Deduct	-0.50	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0199	EA		1" x 2-1/2" Long, Schedule 40 Galvanized Steel Nipple	20.64	10.57
			For Schedule 80 Nipples, Add	5.53	
			For ASTM 120, Deduct	-0.73	
			For Work In Restricted Working Space, Add	4.74	
22 11 16 00-0200	EA		1-1/4" x 2-1/2" Long, Schedule 40 Galvanized Steel Nipple	23.10	11.39
			For Schedule 80 Nipples, Add	6.84	
			For ASTM 120, Deduct	-0.90	
			For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0201	EA		1-1/2" x 2-1/2" Long, Schedule 40 Galvanized Steel Nipple	24.25	11.39
			For Schedule 80 Nipples, Add	8.15	
			For ASTM 120, Deduct	-1.07	
			For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0202	EA		2" x 2-1/2" Long, Schedule 40 Galvanized Steel Nipple	31.55	14.67
			For Schedule 80 Nipples, Add	10.81	
			For ASTM 120, Deduct	-1.42	
			For Work In Restricted Working Space, Add	6.62	
22 11 16 00-0203	EA		3/8" x 3" Long, Schedule 40 Galvanized Steel Nipple.....	18.97	9.74
			For Schedule 80 Nipples, Add	4.91	
			For ASTM 120, Deduct	-0.65	
			For Work In Restricted Working Space, Add	4.40	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0204	EA	1/2" x 3" Long, Schedule 40 Galvanized Steel Nipple	.....	17.48	9.74
		For Schedule 80 Nipples, Add	.....	3.21	
		For ASTM 120, Deduct	.....	-0.42	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0205	EA	3/4" x 3" Long, Schedule 40 Galvanized Steel Nipple	.....	17.99	9.74
		For Schedule 80 Nipples, Add	.....	3.80	
		For ASTM 120, Deduct	.....	-0.50	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0206	EA	1" x 3" Long, Schedule 40 Galvanized Steel Nipple	.....	20.64	10.57
		For Schedule 80 Nipples, Add	.....	5.53	
		For ASTM 120, Deduct	.....	-0.73	
		For Work In Restricted Working Space, Add	.....	4.74	
22 11 16 00-0207	EA	1-1/4" x 3" Long, Schedule 40 Galvanized Steel Nipple	.....	23.10	11.39
		For Schedule 80 Nipples, Add	.....	6.84	
		For ASTM 120, Deduct	.....	-0.90	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0208	EA	1-1/2" x 3" Long, Schedule 40 Galvanized Steel Nipple	.....	24.25	11.39
		For Schedule 80 Nipples, Add	.....	8.15	
		For ASTM 120, Deduct	.....	-1.07	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0209	EA	2" x 3" Long, Schedule 40 Galvanized Steel Nipple	.....	31.55	14.67
		For Schedule 80 Nipples, Add	.....	10.81	
		For ASTM 120, Deduct	.....	-1.42	
		For Work In Restricted Working Space, Add	.....	6.62	
22 11 16 00-0210	EA	2-1/2" x 3" Long, Schedule 40 Galvanized Steel Nipple	.....	53.39	18.26
		For Schedule 80 Nipples, Add	.....	29.67	
		For ASTM 120, Deduct	.....	-3.90	
		For Work In Restricted Working Space, Add	.....	8.21	
22 11 16 00-0211	EA	3" x 3" Long, Schedule 40 Galvanized Steel Nipple	.....	67.28	22.06
		For Schedule 80 Nipples, Add	.....	38.97	
		For ASTM 120, Deduct	.....	-5.13	
		For Work In Restricted Working Space, Add	.....	9.93	
22 11 16 00-0212	EA	3/8" x 3-1/2" Long, Schedule 40 Galvanized Steel Nipple	.....	19.78	9.74
		For Schedule 80 Nipples, Add	.....	5.84	
		For ASTM 120, Deduct	.....	-0.77	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0213	EA	1/2" x 3-1/2" Long, Schedule 40 Galvanized Steel Nipple	.....	18.14	9.74
		For Schedule 80 Nipples, Add	.....	3.97	
		For ASTM 120, Deduct	.....	-0.52	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0214	EA	3/4" x 3-1/2" Long, Schedule 40 Galvanized Steel Nipple	.....	18.97	9.74
		For Schedule 80 Nipples, Add	.....	4.91	
		For ASTM 120, Deduct	.....	-0.65	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0215	EA	1" x 3-1/2" Long, Schedule 40 Galvanized Steel Nipple	.....	21.62	10.57
		For Schedule 80 Nipples, Add	.....	6.65	
		For ASTM 120, Deduct	.....	-0.87	
		For Work In Restricted Working Space, Add	.....	4.74	
22 11 16 00-0216	EA	1-1/4" x 3-1/2" Long, Schedule 40 Galvanized Steel Nipple	.....	24.25	11.39
		For Schedule 80 Nipples, Add	.....	8.15	
		For ASTM 120, Deduct	.....	-1.07	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0217	EA	1-1/2" x 3-1/2" Long, Schedule 40 Galvanized Steel Nipple	.....	26.14	11.39
		For Schedule 80 Nipples, Add	.....	10.31	
		For ASTM 120, Deduct	.....	-1.36	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0218	EA	2" x 3-1/2" Long, Schedule 40 Galvanized Steel Nipple	.....	33.58	14.67
		For Schedule 80 Nipples, Add	.....	13.12	
		For ASTM 120, Deduct	.....	-1.73	
		For Work In Restricted Working Space, Add	.....	6.62	
22 11 16 00-0219	EA	2-1/2" x 3-1/2" Long, Schedule 40 Galvanized Steel Nipple	.....	57.58	18.26
		For Schedule 80 Nipples, Add	.....	34.45	
		For ASTM 120, Deduct	.....	-4.53	
		For Work In Restricted Working Space, Add	.....	8.21	
22 11 16 00-0220	EA	3" x 3-1/2" Long, Schedule 40 Galvanized Steel Nipple	.....	73.21	22.06
		For Schedule 80 Nipples, Add	.....	45.73	
		For ASTM 120, Deduct	.....	-6.02	
		For Work In Restricted Working Space, Add	.....	9.93	
22 11 16 00-0221	EA	3/8" x 4" Long, Schedule 40 Galvanized Steel Nipple	.....	19.78	9.74
		For Schedule 80 Nipples, Add	.....	5.84	
		For ASTM 120, Deduct	.....	-0.77	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0222	EA	1/2" x 4" Long, Schedule 40 Galvanized Steel Nipple	.....	18.14	9.74
		For Schedule 80 Nipples, Add	.....	3.97	
		For ASTM 120, Deduct	.....	-0.52	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0223	EA	3/4" x 4" Long, Schedule 40 Galvanized Steel Nipple	.....	19.78	9.74
		For Schedule 80 Nipples, Add	.....	5.84	
		For ASTM 120, Deduct	.....	-0.77	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0224	EA	1" x 4" Long, Schedule 40 Galvanized Steel Nipple	.....	21.62	10.57
		For Schedule 80 Nipples, Add	.....	6.65	
		For ASTM 120, Deduct	.....	-0.87	
		For Work In Restricted Working Space, Add	.....	4.74	

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0225	EA	1-1/4" x 4" Long, Schedule 40 Galvanized Steel Nipple	24.25	11.39
		For Schedule 80 Nipples, Add	8.15	
		For ASTM 120, Deduct	-1.07	
		For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0226	EA	1-1/2" x 4" Long, Schedule 40 Galvanized Steel Nipple	26.14	11.39
		For Schedule 80 Nipples, Add	10.31	
		For ASTM 120, Deduct	-1.36	
		For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0227	EA	2" x 4" Long, Schedule 40 Galvanized Steel Nipple	33.68	14.67
		For Schedule 80 Nipples, Add	13.24	
		For ASTM 120, Deduct	-1.74	
		For Work In Restricted Working Space, Add	6.62	
22 11 16 00-0228	EA	2-1/2" x 4" Long, Schedule 40 Galvanized Steel Nipple	57.58	18.26
		For Schedule 80 Nipples, Add	34.45	
		For ASTM 120, Deduct	-4.53	
		For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0229	EA	3" x 4" Long, Schedule 40 Galvanized Steel Nipple	73.21	22.06
		For Schedule 80 Nipples, Add	45.73	
		For ASTM 120, Deduct	-6.02	
		For Work In Restricted Working Space, Add	9.93	
22 11 16 00-0230	EA	4" x 4" Long, Schedule 40 Galvanized Steel Nipple	94.31	27.01
		For Schedule 80 Nipples, Add	61.38	
		For ASTM 120, Deduct	-8.08	
		For Work In Restricted Working Space, Add	12.14	
22 11 16 00-0231	EA	3/8" x 4-1/2" Long, Schedule 40 Galvanized Steel Nipple	21.71	9.74
		For Schedule 80 Nipples, Add	8.04	
		For ASTM 120, Deduct	-1.06	
		For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0232	EA	1/2" x 4-1/2" Long, Schedule 40 Galvanized Steel Nipple	18.85	9.74
		For Schedule 80 Nipples, Add	4.78	
		For ASTM 120, Deduct	-0.63	
		For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0233	EA	3/4" x 4-1/2" Long, Schedule 40 Galvanized Steel Nipple	19.80	9.74
		For Schedule 80 Nipples, Add	5.86	
		For ASTM 120, Deduct	-0.77	
		For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0234	EA	1" x 4-1/2" Long, Schedule 40 Galvanized Steel Nipple	22.94	10.57
		For Schedule 80 Nipples, Add	8.15	
		For ASTM 120, Deduct	-1.07	
		For Work In Restricted Working Space, Add	4.74	
22 11 16 00-0235	EA	1-1/4" x 4-1/2" Long, Schedule 40 Galvanized Steel Nipple	25.94	11.39
		For Schedule 80 Nipples, Add	10.08	
		For ASTM 120, Deduct	-1.33	
		For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0236	EA	1-1/2" x 4-1/2" Long, Schedule 40 Galvanized Steel Nipple	28.02	11.39
		For Schedule 80 Nipples, Add	12.45	
		For ASTM 120, Deduct	-1.64	
		For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0237	EA	2" x 4-1/2" Long, Schedule 40 Galvanized Steel Nipple	36.76	14.67
		For Schedule 80 Nipples, Add	16.75	
		For ASTM 120, Deduct	-2.20	
		For Work In Restricted Working Space, Add	6.62	
22 11 16 00-0238	EA	2-1/2" x 4-1/2" Long, Schedule 40 Galvanized Steel Nipple	61.05	18.26
		For Schedule 80 Nipples, Add	38.41	
		For ASTM 120, Deduct	-5.05	
		For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0239	EA	3" x 4-1/2" Long, Schedule 40 Galvanized Steel Nipple	79.84	22.06
		For Schedule 80 Nipples, Add	53.28	
		For ASTM 120, Deduct	-7.01	
		For Work In Restricted Working Space, Add	9.93	
22 11 16 00-0240	EA	4" x 4-1/2" Long, Schedule 40 Galvanized Steel Nipple	100.85	27.01
		For Schedule 80 Nipples, Add	68.83	
		For ASTM 120, Deduct	-9.06	
		For Work In Restricted Working Space, Add	12.14	
22 11 16 00-0241	EA	3/8" x 5" Long, Schedule 40 Galvanized Steel Nipple	21.71	9.74
		For Schedule 80 Nipples, Add	8.04	
		For ASTM 120, Deduct	-1.06	
		For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0242	EA	1/2" x 5" Long, Schedule 40 Galvanized Steel Nipple	18.85	9.74
		For Schedule 80 Nipples, Add	4.78	
		For ASTM 120, Deduct	-0.63	
		For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0243	EA	3/4" x 5" Long, Schedule 40 Galvanized Steel Nipple	19.80	9.74
		For Schedule 80 Nipples, Add	5.86	
		For ASTM 120, Deduct	-0.77	
		For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0244	EA	1" x 5" Long, Schedule 40 Galvanized Steel Nipple	22.94	10.57
		For Schedule 80 Nipples, Add	8.15	
		For ASTM 120, Deduct	-1.07	
		For Work In Restricted Working Space, Add	4.74	
22 11 16 00-0245	EA	1-1/4" x 5" Long, Schedule 40 Galvanized Steel Nipple	25.94	11.39
		For Schedule 80 Nipples, Add	10.08	
		For ASTM 120, Deduct	-1.33	
		For Work In Restricted Working Space, Add	5.13	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0246	EA	1-1/2" x 5" Long, Schedule 40 Galvanized Steel Nipple		28.02	11.39
		For Schedule 80 Nipples, Add	.....	12.45	
		For ASTM 120, Deduct	.....	-1.64	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0247	EA	2" x 5" Long, Schedule 40 Galvanized Steel Nipple	.....	36.76	14.67
		For Schedule 80 Nipples, Add	.....	16.75	
		For ASTM 120, Deduct	.....	-2.20	
		For Work In Restricted Working Space, Add	.....	6.62	
22 11 16 00-0248	EA	2-1/2" x 5" Long, Schedule 40 Galvanized Steel Nipple	.....	61.05	18.26
		For Schedule 80 Nipples, Add	.....	38.41	
		For ASTM 120, Deduct	.....	-5.05	
		For Work In Restricted Working Space, Add	.....	8.21	
22 11 16 00-0249	EA	3" x 5" Long, Schedule 40 Galvanized Steel Nipple	.....	79.84	22.06
		For Schedule 80 Nipples, Add	.....	53.28	
		For ASTM 120, Deduct	.....	-7.01	
		For Work In Restricted Working Space, Add	.....	9.93	
22 11 16 00-0250	EA	4" x 5" Long, Schedule 40 Galvanized Steel Nipple	.....	100.85	27.01
		For Schedule 80 Nipples, Add	.....	68.83	
		For ASTM 120, Deduct	.....	-9.06	
		For Work In Restricted Working Space, Add	.....	12.14	
22 11 16 00-0251	EA	3/8" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	22.50	9.74
		For Schedule 80 Nipples, Add	.....	8.94	
		For ASTM 120, Deduct	.....	-1.18	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0252	EA	1/2" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	19.41	9.74
		For Schedule 80 Nipples, Add	.....	5.42	
		For ASTM 120, Deduct	.....	-0.71	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0253	EA	3/4" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	20.83	9.74
		For Schedule 80 Nipples, Add	.....	7.03	
		For ASTM 120, Deduct	.....	-0.93	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0254	EA	1" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	23.89	10.57
		For Schedule 80 Nipples, Add	.....	9.23	
		For ASTM 120, Deduct	.....	-1.22	
		For Work In Restricted Working Space, Add	.....	4.74	
22 11 16 00-0255	EA	1-1/4" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	27.36	11.39
		For Schedule 80 Nipples, Add	.....	11.70	
		For ASTM 120, Deduct	.....	-1.54	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0256	EA	1-1/2" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	29.39	11.39
		For Schedule 80 Nipples, Add	.....	14.01	
		For ASTM 120, Deduct	.....	-1.64	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0257	EA	2" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	39.14	14.67
		For Schedule 80 Nipples, Add	.....	19.46	
		For ASTM 120, Deduct	.....	-2.56	
		For Work In Restricted Working Space, Add	.....	6.62	
22 11 16 00-0258	EA	2-1/2" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	64.38	18.26
		For Schedule 80 Nipples, Add	.....	42.20	
		For ASTM 120, Deduct	.....	-5.55	
		For Work In Restricted Working Space, Add	.....	8.21	
22 11 16 00-0259	EA	3" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	82.54	22.06
		For Schedule 80 Nipples, Add	.....	56.36	
		For ASTM 120, Deduct	.....	-7.42	
		For Work In Restricted Working Space, Add	.....	9.93	
22 11 16 00-0260	EA	4" x 6" Long, Schedule 40 Galvanized Steel Nipple	.....	107.22	27.01
		For Schedule 80 Nipples, Add	.....	76.10	
		For ASTM 120, Deduct	.....	-10.01	
		For Work In Restricted Working Space, Add	.....	12.14	
22 11 16 00-0261	EA	3/8" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	45.98	9.74
		For Schedule 80 Nipples, Add	.....	35.70	
		For ASTM 120, Deduct	.....	-4.70	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0262	EA	1/2" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	23.03	9.74
		For Schedule 80 Nipples, Add	.....	9.54	
		For ASTM 120, Deduct	.....	-1.26	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0263	EA	3/4" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	25.36	9.74
		For Schedule 80 Nipples, Add	.....	12.20	
		For ASTM 120, Deduct	.....	-1.61	
		For Work In Restricted Working Space, Add	.....	4.40	
22 11 16 00-0264	EA	1" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	29.35	10.57
		For Schedule 80 Nipples, Add	.....	15.46	
		For ASTM 120, Deduct	.....	-2.03	
		For Work In Restricted Working Space, Add	.....	4.74	
22 11 16 00-0265	EA	1-1/4" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	33.73	11.39
		For Schedule 80 Nipples, Add	.....	18.96	
		For ASTM 120, Deduct	.....	-2.49	
		For Work In Restricted Working Space, Add	.....	5.13	
22 11 16 00-0266	EA	1-1/2" x 8" Long, Schedule 40 Galvanized Steel Nipple	.....	36.17	11.39
		For Schedule 80 Nipples, Add	.....	21.74	
		For ASTM 120, Deduct	.....	-2.86	
		For Work In Restricted Working Space, Add	.....	5.13	

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0267	EA		2" x 8" Long, Schedule 40 Galvanized Steel Nipple	49.89	14.67
			For Schedule 80 Nipples, Add	31.71	
			For ASTM 120, Deduct	-4.17	
			For Work In Restricted Working Space, Add	6.62	
22 11 16 00-0268	EA		2-1/2" x 8" Long, Schedule 40 Galvanized Steel Nipple	75.01	18.26
			For Schedule 80 Nipples, Add	54.32	
			For ASTM 120, Deduct	-7.15	
			For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0269	EA		3" x 8" Long, Schedule 40 Galvanized Steel Nipple	99.70	22.06
			For Schedule 80 Nipples, Add	75.92	
			For ASTM 120, Deduct	-9.99	
			For Work In Restricted Working Space, Add	9.93	
22 11 16 00-0270	EA		4" x 8" Long, Schedule 40 Galvanized Steel Nipple	120.12	27.01
			For Schedule 80 Nipples, Add	90.80	
			For ASTM 120, Deduct	-11.95	
			For Work In Restricted Working Space, Add	12.14	
22 11 16 00-0271	EA		3/8" x 10" Long, Schedule 40 Galvanized Steel Nipple.....	29.60	9.74
			For Schedule 80 Nipples, Add	17.03	
			For ASTM 120, Deduct	-2.24	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0272	EA		1/2" x 10" Long, Schedule 40 Galvanized Steel Nipple.....	24.60	9.74
			For Schedule 80 Nipples, Add	11.33	
			For ASTM 120, Deduct	-1.49	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0273	EA		3/4" x 10" Long, Schedule 40 Galvanized Steel Nipple.....	26.54	9.74
			For Schedule 80 Nipples, Add	13.54	
			For ASTM 120, Deduct	-1.78	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0274	EA		1" x 10" Long, Schedule 40 Galvanized Steel Nipple.....	31.29	10.57
			For Schedule 80 Nipples, Add	17.67	
			For ASTM 120, Deduct	-2.33	
			For Work In Restricted Working Space, Add	4.74	
22 11 16 00-0275	EA		1-1/4" x 10" Long, Schedule 40 Galvanized Steel Nipple	36.98	11.39
			For Schedule 80 Nipples, Add	22.66	
			For ASTM 120, Deduct	-2.98	
			For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0276	EA		1-1/2" x 10" Long, Schedule 40 Galvanized Steel Nipple	39.33	11.39
			For Schedule 80 Nipples, Add	25.34	
			For ASTM 120, Deduct	-3.33	
			For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0277	EA		2" x 10" Long, Schedule 40 Galvanized Steel Nipple.....	54.61	14.67
			For Schedule 80 Nipples, Add	37.10	
			For ASTM 120, Deduct	-4.88	
			For Work In Restricted Working Space, Add	6.62	
22 11 16 00-0278	EA		2-1/2" x 10" Long, Schedule 40 Galvanized Steel Nipple	81.67	18.26
			For Schedule 80 Nipples, Add	61.91	
			For ASTM 120, Deduct	-8.15	
			For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0279	EA		3" x 10" Long, Schedule 40 Galvanized Steel Nipple.....	109.08	22.06
			For Schedule 80 Nipples, Add	86.62	
			For ASTM 120, Deduct	-11.40	
			For Work In Restricted Working Space, Add	9.93	
22 11 16 00-0280	EA		4" x 10" Long, Schedule 40 Galvanized Steel Nipple.....	132.78	27.01
			For Schedule 80 Nipples, Add	105.23	
			For ASTM 120, Deduct	-13.85	
			For Work In Restricted Working Space, Add	12.14	
22 11 16 00-0281	EA		3/8" x 12" Long, Schedule 40 Galvanized Steel Nipple.....	31.21	9.74
			For Schedule 80 Nipples, Add	18.87	
			For ASTM 120, Deduct	-2.48	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0282	EA		1/2" x 12" Long, Schedule 40 Galvanized Steel Nipple.....	25.97	9.74
			For Schedule 80 Nipples, Add	12.89	
			For ASTM 120, Deduct	-1.70	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0283	EA		3/4" x 12" Long, Schedule 40 Galvanized Steel Nipple.....	27.98	9.74
			For Schedule 80 Nipples, Add	15.18	
			For ASTM 120, Deduct	-2.00	
			For Work In Restricted Working Space, Add	4.40	
22 11 16 00-0284	EA		1" x 12" Long, Schedule 40 Galvanized Steel Nipple.....	33.84	10.57
			For Schedule 80 Nipples, Add	20.58	
			For ASTM 120, Deduct	-2.71	
			For Work In Restricted Working Space, Add	4.74	
22 11 16 00-0285	EA		1-1/4" x 12" Long, Schedule 40 Galvanized Steel Nipple	40.97	11.39
			For Schedule 80 Nipples, Add	27.21	
			For ASTM 120, Deduct	-3.58	
			For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0286	EA		1-1/2" x 12" Long, Schedule 40 Galvanized Steel Nipple	42.54	11.39
			For Schedule 80 Nipples, Add	29.00	
			For ASTM 120, Deduct	-3.82	
			For Work In Restricted Working Space, Add	5.13	
22 11 16 00-0287	EA		2" x 12" Long, Schedule 40 Galvanized Steel Nipple.....	59.41	14.67
			For Schedule 80 Nipples, Add	42.57	
			For ASTM 120, Deduct	-5.60	
			For Work In Restricted Working Space, Add	6.62	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0288	EA	2-1/2" x 12" Long, Schedule 40 Galvanized Steel Nipple	88.13	18.26
		For Schedule 80 Nipples, Add	69.28	
		For ASTM 120, Deduct	-9.12	
		For Work In Restricted Working Space, Add	8.21	
22 11 16 00-0289	EA	3" x 12" Long, Schedule 40 Galvanized Steel Nipple	118.53	22.06
		For Schedule 80 Nipples, Add	97.39	
		For ASTM 120, Deduct	-12.81	
		For Work In Restricted Working Space, Add	9.93	
22 11 16 00-0290	EA	4" x 12" Long, Schedule 40 Galvanized Steel Nipple	145.56	27.01
		For Schedule 80 Nipples, Add	119.80	
		For ASTM 120, Deduct	-15.76	
		For Work In Restricted Working Space, Add	12.14	
22 11 16 00-0291		Galvanized Malleable Iron Square Head Plugs (22 11 16 00-0013)		
22 11 16 00-0292	EA	1/2", 150 LB, Galvanized Malleable Iron Square Head Plug.....	17.81	7.29
		For 300 LB Rating, Add	24.01	
		For Work In Restricted Working Space, Add	3.28	
22 11 16 00-0293	EA	3/4", 150 LB, Galvanized Malleable Iron Square Head Plug.....	19.12	8.21
		For 300 LB Rating, Add	24.09	
		For Work In Restricted Working Space, Add	3.68	
22 11 16 00-0294	EA	1", 150 LB, Galvanized Malleable Iron Square Head Plug.....	21.21	9.13
		For 300 LB Rating, Add	26.46	
		For Work In Restricted Working Space, Add	4.10	
22 11 16 00-0295	EA	1-1/4", 150 LB, Galvanized Malleable Iron Square Head Plug.....	27.08	10.36
		For 300 LB Rating, Add	40.34	
		For Work In Restricted Working Space, Add	4.65	
22 11 16 00-0296	EA	1-1/2", 150 LB, Galvanized Malleable Iron Square Head Plug.....	33.07	11.60
		For 300 LB Rating, Add	54.12	
		For Work In Restricted Working Space, Add	5.24	
22 11 16 00-0297	EA	2", 150 LB, Galvanized Malleable Iron Square Head Plug.....	42.03	14.77
		For 300 LB Rating, Add	68.82	
		For Work In Restricted Working Space, Add	6.65	
22 11 16 00-0298	EA	2-1/2", 150 LB, Galvanized Malleable Iron Square Head Plug.....	71.55	21.86
		For 300 LB Rating, Add	133.62	
		For Work In Restricted Working Space, Add	9.85	
22 11 16 00-0299	EA	3", 150 LB, Galvanized Malleable Iron Square Head Plug.....	98.15	28.83
		For 300 LB Rating, Add	189.39	
		For Work In Restricted Working Space, Add	12.96	
22 11 16 00-0300	EA	4", 150 LB, Galvanized Malleable Iron Square Head Plug.....	161.27	31.46
		For 300 LB Rating, Add	390.64	
		For Work In Restricted Working Space, Add	14.16	
22 11 16 00-0301	EA	5", 150 LB, Galvanized Malleable Iron Square Head Plug.....	258.54	32.88
		For 300 LB Rating, Add	714.47	
		For Work In Restricted Working Space, Add	14.78	
22 11 16 00-0302	EA	6", 150 LB, Galvanized Malleable Iron Square Head Plug.....	277.74	34.29
		For 300 LB Rating, Add	772.27	
		For Work In Restricted Working Space, Add	15.45	
22 11 16 00-0303		Galvanized Malleable Iron Bushing (22 11 16 00-0013)		
22 11 16 00-0304	EA	3/4" x 1/2", 150 LB, Galvanized Malleable Iron Bushing.....	44.81	19.29
		For Work In Restricted Working Space, Add	8.70	
22 11 16 00-0305	EA	1" x 1/2", 150 LB, Galvanized Malleable Iron Bushing.....	49.70	20.52
		For Work In Restricted Working Space, Add	9.23	
22 11 16 00-0306	EA	1" x 3/4", 150 LB, Galvanized Malleable Iron Bushing.....	50.34	21.64
		For Work In Restricted Working Space, Add	9.73	
22 11 16 00-0307	EA	1-1/4" x 1/2", 150 LB, Galvanized Malleable Iron Bushing.....	59.53	22.06
		For Work In Restricted Working Space, Add	9.91	
22 11 16 00-0308	EA	1-1/4" x 3/4", 150 LB, Galvanized Malleable Iron Bushing.....	58.76	23.09
		For Work In Restricted Working Space, Add	10.40	
22 11 16 00-0309	EA	1-1/4" x 1", 150 LB, Galvanized Malleable Iron Bushing.....	60.55	24.31
		For Work In Restricted Working Space, Add	10.94	
22 11 16 00-0310	EA	1-1/2" x 1/2", 150 LB, Galvanized Malleable Iron Bushing.....	70.52	23.70
		For Work In Restricted Working Space, Add	10.65	
22 11 16 00-0311	EA	1-1/2" x 3/4", 150 LB, Galvanized Malleable Iron Bushing.....	72.15	24.73
		For Work In Restricted Working Space, Add	11.14	
22 11 16 00-0312	EA	1-1/2" x 1", 150 LB, Galvanized Malleable Iron Bushing.....	70.50	25.96
		For Work In Restricted Working Space, Add	11.68	
22 11 16 00-0313	EA	1-1/2" x 1-1/4", 150 LB, Galvanized Malleable Iron Bushing.....	70.31	27.50
		For Work In Restricted Working Space, Add	12.35	
22 11 16 00-0314	EA	2" x 1/2", 150 LB, Galvanized Malleable Iron Bushing.....	85.15	27.60
		For Work In Restricted Working Space, Add	12.43	
22 11 16 00-0315	EA	2" x 3/4", 150 LB, Galvanized Malleable Iron Bushing.....	83.74	28.73
		For Work In Restricted Working Space, Add	12.92	
22 11 16 00-0316	EA	2" x 1", 150 LB, Galvanized Malleable Iron Bushing.....	83.30	29.86
		For Work In Restricted Working Space, Add	13.45	
22 11 16 00-0317	EA	2" x 1-1/4", 150 LB, Galvanized Malleable Iron Bushing.....	85.56	31.40
		For Work In Restricted Working Space, Add	14.13	
22 11 16 00-0318	EA	2" x 1-1/2", 150 LB, Galvanized Malleable Iron Bushing.....	83.30	33.04
		For Work In Restricted Working Space, Add	14.87	
22 11 16 00-0319	EA	2-1/2" x 3/4", 150 LB, Galvanized Malleable Iron Bushing.....	119.63	37.56
		For Work In Restricted Working Space, Add	16.91	

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0320 EA 2-1/2" x 1", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	121.41 17.44	38.79
22 11 16 00-0321 EA 2-1/2" x 1-1/4", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	123.67 18.12	40.23
22 11 16 00-0322 EA 2-1/2" x 1-1/2", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	124.98 18.86	41.97
22 11 16 00-0323 EA 2-1/2" x 2", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	123.80 20.63	45.87
22 11 16 00-0324 EA 3" x 3/4", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	152.84 20.80	46.17
22 11 16 00-0325 EA 3" x 1", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	154.62 21.33	47.40
22 11 16 00-0326 EA 3" x 1-1/4", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	156.88 22.01	48.94
22 11 16 00-0327 EA 3" x 1-1/2", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	157.72 22.75	50.58
22 11 16 00-0328 EA 3" x 2", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	155.97 24.52	54.48
22 11 16 00-0329 EA 3" x 2-1/2", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	173.59 28.51	63.41
22 11 16 00-0330 EA 4" x 3/4", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	249.17 22.24	49.37
22 11 16 00-0331 EA 4" x 1", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	250.93 22.76	50.59
22 11 16 00-0332 EA 4" x 1-1/4", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	253.16 23.43	52.10
22 11 16 00-0333 EA 4" x 1-1/2", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	255.59 24.16	53.73
22 11 16 00-0334 EA 4" x 2", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	240.79 25.91	57.57
22 11 16 00-0335 EA 4" x 2-1/2", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	274.54 29.85	66.37
22 11 16 00-0336 EA 4" x 3", 150 LB, Galvanized Malleable Iron Bushing..... <i>For Work In Restricted Working Space, Add</i>	275.74 33.68	74.87
22 11 16 00-0337 Galvanized Malleable Iron Floor Flange (22 11 16 00-0013) Note: Excludes fasteners to floor or wall. See CSI section 05 05 19 00-0001 for anchors.		
22 11 16 00-0338 EA 1/2", 150 LB, Galvanized Malleable Iron Floor Flange.....	64.09	37.50
22 11 16 00-0339 EA 3/4", 150 LB, Galvanized Malleable Iron Floor Flange.....	70.04	41.04
22 11 16 00-0340 EA 1", 150 LB, Galvanized Malleable Iron Floor Flange.....	80.58	46.37
22 11 16 00-0341 EA 1-1/4", 150 LB, Galvanized Malleable Iron Floor Flange.....	83.78	48.02
22 11 16 00-0342 EA 1-1/2", 150 LB, Galvanized Malleable Iron Floor Flange.....	91.18	52.23
22 11 16 00-0343 EA 2", 150 LB, Galvanized Malleable Iron Floor Flange.....	98.49	54.48
22 11 16 00-0344 Galvanized Cast Iron Flanges (22 11 16 00-0013) Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.		
22 11 16 00-0345 EA 3/4", 125 LB, Galvanized Cast Iron Flange..... <i>For Work In Restricted Working Space, Add</i>	127.68 18.47	41.04
22 11 16 00-0346 EA 1", 125 LB, Galvanized Cast Iron Flange..... <i>For Work In Restricted Working Space, Add</i>	120.75 20.87	46.37
22 11 16 00-0347 EA 1-1/4", 125 LB, Galvanized Cast Iron Flange..... <i>For Work In Restricted Working Space, Add</i>	99.06 21.60	48.02
22 11 16 00-0348 EA 1-1/2", 125 LB, Galvanized Cast Iron Flange..... <i>For Work In Restricted Working Space, Add</i>	118.29 23.50	52.23
22 11 16 00-0349 EA 2", 125 LB, Galvanized Cast Iron Flange..... <i>For Work In Restricted Working Space, Add</i>	134.62 24.52	54.48
22 11 16 00-0350 EA 2-1/2", 125 LB, Galvanized Cast Iron Flange..... <i>For Work In Restricted Working Space, Add</i>	156.41 28.37	63.10
22 11 16 00-0351 EA 3", 125 LB, Galvanized Cast Iron Flange..... <i>For Work In Restricted Working Space, Add</i>	287.03 35.99	80.03
22 11 16 00-0352 EA 4", 125 LB, Galvanized Cast Iron Flange..... <i>For Work In Restricted Working Space, Add</i>	389.36 48.55	107.95
22 11 16 00-0353 EA 5", 125 LB, Galvanized Cast Iron Flange..... <i>For Work In Restricted Working Space, Add</i>	549.87 57.80	128.49
22 11 16 00-0354 EA 6", 125 LB, Galvanized Cast Iron Flange..... <i>For Work In Restricted Working Space, Add</i>	603.12 66.40	147.61
22 11 16 00-0355 EA 8", 125 LB, Galvanized Cast Iron Flange..... <i>For Work In Restricted Working Space, Add</i>	551.44 75.88	168.70
22 11 16 00-0356 Cut And Thread Existing In-Place Galvanized Steel Pipe (22 11 16 00-0013) Note: For use when connecting pipe to an existing in-place system.		
22 11 16 00-0357 EA 1/2", Cut And Thread Existing In Place Galvanized Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	33.43 10.03	
22 11 16 00-0358 EA 3/4", Cut And Thread Existing In Place Galvanized Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	36.77 11.03	
22 11 16 00-0359 EA 1", Cut And Thread Existing In Place Galvanized Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	40.12 12.04	
22 11 16 00-0360 EA 1-1/4", Cut And Thread Existing In Place Galvanized Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	43.45 13.04	
22 11 16 00-0361 EA 1-1/2", Cut And Thread Existing In Place Galvanized Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	45.68 13.70	



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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0362	EA		2", Cut And Thread Existing In Place Galvanized Steel Pipe.....	47.91	
			For Work In Restricted Working Space, Add	14.37	
22 11 16 00-0363	EA		2-1/2", Cut And Thread Existing In Place Galvanized Steel Pipe	50.14	
			For Work In Restricted Working Space, Add	15.04	
22 11 16 00-0364	EA		3", Cut And Thread Existing In Place Galvanized Steel Pipe.....	52.36	
			For Work In Restricted Working Space, Add	15.71	
22 11 16 00-0365	EA		4", Cut And Thread Existing In Place Galvanized Steel Pipe.....	54.60	
			For Work In Restricted Working Space, Add	16.38	
22 11 16 00-0366	EA		6", Cut And Thread Existing In Place Galvanized Steel Pipe.....	59.05	
			For Work In Restricted Working Space, Add	17.72	
22 11 16 00-0367	EA		8", Cut And Thread Existing In Place Galvanized Steel Pipe.....	63.50	
			For Work In Restricted Working Space, Add	19.05	
22 11 16 00-0368			Copper Pipe And Fittings (22 11 16)		
			Note: Excludes hangers. See CSI section 22 11 16 00-0899 for pipe with fittings assembly.		
22 11 16 00-0369			Copper Tube/Pipe (22 11 16 00-0368)		
			Note: Pipe based on inside diameter size. Excludes hangers and fittings (couplers, tees, elbows, etc).		
22 11 16 00-0370			Hard Drawn Type L Copper Tube/Pipe (22 11 16 00-0369)		
22 11 16 00-0371	LF		1/4" Hard Drawn Type L Copper Tube/Pipe	5.24	2.51
			For Medical/Oxygen Service Tubing, Add	0.12	
			For Up To 20, Add	0.56	
			For >200, Deduct	-0.15	
			For Work In Restricted Working Space, Add	1.13	
22 11 16 00-0372	LF		3/8" Hard Drawn Type L Copper Tube/Pipe	6.09	2.61
			For Medical/Oxygen Service Tubing, Add	0.17	
			For Up To 20, Add	0.66	
			For >200, Deduct	-0.22	
			For Work In Restricted Working Space, Add	1.18	
22 11 16 00-0373	LF		1/2" Hard Drawn Type L Copper Tube/Pipe	6.66	2.72
			For Medical/Oxygen Service Tubing, Add	0.21	
			For Up To 20, Add	0.73	
			For >200, Deduct	-0.26	
			For Work In Restricted Working Space, Add	1.22	
22 11 16 00-0374	LF		3/4" Hard Drawn Type L Copper Tube/Pipe	8.52	2.89
			For Medical/Oxygen Service Tubing, Add	0.34	
			For Up To 20, Add	0.96	
			For >200, Deduct	-0.42	
			For Work In Restricted Working Space, Add	1.30	
22 11 16 00-0375	LF		1" Hard Drawn Type L Copper Tube/Pipe	10.93	3.24
			For Medical/Oxygen Service Tubing, Add	0.49	
			For Up To 20, Add	1.24	
			For >200, Deduct	-0.61	
			For Work In Restricted Working Space, Add	1.46	
22 11 16 00-0376	LF		1-1/4" Hard Drawn Type L Copper Tube/Pipe	15.60	4.82
			For Medical/Oxygen Service Tubing, Add	0.67	
			For Up To 20, Add	1.77	
			For >200, Deduct	-0.84	
			For Work In Restricted Working Space, Add	2.17	
22 11 16 00-0377	LF		1-1/2" Hard Drawn Type L Copper Tube/Pipe	18.84	5.38
			For Medical/Oxygen Service Tubing, Add	0.86	
			For Up To 20, Add	2.15	
			For >200, Deduct	-1.08	
			For Work In Restricted Working Space, Add	2.42	
22 11 16 00-0378	LF		2" Hard Drawn Type L Copper Tube/Pipe	26.98	6.64
			For Medical/Oxygen Service Tubing, Add	1.36	
			For Up To 20, Add	3.12	
			For >200, Deduct	-1.70	
			For Work In Restricted Working Space, Add	2.99	
22 11 16 00-0379	LF		2-1/2" Hard Drawn Type L Copper Tube/Pipe	48.06	7.81
			For Medical/Oxygen Service Tubing, Add	1.97	
			For Up To 20, Add	5.42	
			For >200, Deduct	-2.46	
			For Work In Restricted Working Space, Add	7.04	
22 11 16 00-0380	LF		3" Hard Drawn Type L Copper Tube/Pipe	60.40	9.20
			For Medical/Oxygen Service Tubing, Add	2.63	
			For Up To 20, Add	6.86	
			For >200, Deduct	-3.28	
			For Work In Restricted Working Space, Add	8.27	
22 11 16 00-0381	LF		4" Hard Drawn Type L Copper Tube/Pipe	89.61	10.38
			For Medical/Oxygen Service Tubing, Add	4.68	
			For Up To 20, Add	10.42	
			For >200, Deduct	-5.85	
			For Work In Restricted Working Space, Add	9.34	
22 11 16 00-0382	LF		5" Hard Drawn Type L Copper Tube/Pipe	139.06	11.92
			For Medical/Oxygen Service Tubing, Add	8.26	
			For Up To 20, Add	16.49	
			For >200, Deduct	-10.33	
			For Work In Restricted Working Space, Add	10.73	
22 11 16 00-0383	LF		6" Hard Drawn Type L Copper Tube/Pipe	191.31	18.48
			For Medical/Oxygen Service Tubing, Add	10.87	
			For Up To 20, Add	22.53	
			For >200, Deduct	-13.59	
			For Work In Restricted Working Space, Add	16.62	

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0384	LF		8" Hard Drawn Type L Copper Tube/Pipe	317.72	20.55
			For Medical/Oxygen Service Tubing, Add	20.49	
			For Up To 20, Add	38.18	
			For >200, Deduct	-25.61	
			For Work In Restricted Working Space, Add	18.48	
22 11 16 00-0385			Hard Drawn Type K Copper Tube/Pipe (22 11 16 00-0369)		
22 11 16 00-0386	LF		1/4" Hard Drawn Type K Copper Tube/Pipe	5.71	2.70
			For Medical/Oxygen Service Tubing, Add	0.13	
			For Up To 20, Add	0.61	
			For >200, Deduct	-0.17	
			For Work In Restricted Working Space, Add	1.21	
22 11 16 00-0387	LF		3/8" Hard Drawn Type K Copper Tube/Pipe	7.61	2.81
			For Medical/Oxygen Service Tubing, Add	0.24	
			For Up To 20, Add	0.64	
			For >200, Deduct	-0.30	
			For Work In Restricted Working Space, Add	1.39	
22 11 16 00-0388	LF		1/2" Hard Drawn Type K Copper Tube/Pipe	8.01	2.92
			For Medical/Oxygen Service Tubing, Add	0.28	
			For Up To 20, Add	0.89	
			For >200, Deduct	-0.35	
			For Work In Restricted Working Space, Add	1.35	
22 11 16 00-0389	LF		3/4" Hard Drawn Type K Copper Tube/Pipe	11.55	3.10
			For Medical/Oxygen Service Tubing, Add	0.51	
			For Up To 20, Add	1.31	
			For >200, Deduct	-0.63	
			For Work In Restricted Working Space, Add	1.57	
22 11 16 00-0390	LF		1" Hard Drawn Type K Copper Tube/Pipe	13.96	3.48
			For Medical/Oxygen Service Tubing, Add	0.67	
			For Up To 20, Add	1.61	
			For >200, Deduct	-0.84	
			For Work In Restricted Working Space, Add	1.67	
22 11 16 00-0391	LF		1-1/4" Hard Drawn Type K Copper Tube/Pipe	18.34	5.18
			For Medical/Oxygen Service Tubing, Add	0.84	
			For Up To 20, Add	2.10	
			For >200, Deduct	-1.05	
			For Work In Restricted Working Space, Add	2.36	
22 11 16 00-0392	LF		1-1/2" Hard Drawn Type K Copper Tube/Pipe	22.25	5.78
			For Medical/Oxygen Service Tubing, Add	1.07	
			For Up To 20, Add	2.56	
			For >200, Deduct	-1.34	
			For Work In Restricted Working Space, Add	2.65	
22 11 16 00-0393	LF		2" Hard Drawn Type K Copper Tube/Pipe	31.45	7.14
			For Medical/Oxygen Service Tubing, Add	1.65	
			For Up To 20, Add	3.66	
			For >200, Deduct	-2.06	
			For Work In Restricted Working Space, Add	3.25	
22 11 16 00-0394	LF		2-1/2" Hard Drawn Type K Copper Tube/Pipe	54.28	8.39
			For Medical/Oxygen Service Tubing, Add	2.46	
			For Up To 20, Add	6.20	
			For >200, Deduct	-3.07	
			For Work In Restricted Working Space, Add	7.07	
22 11 16 00-0395	LF		3" Hard Drawn Type K Copper Tube/Pipe	72.36	9.90
			For Medical/Oxygen Service Tubing, Add	3.36	
			For Up To 20, Add	8.29	
			For >200, Deduct	-4.20	
			For Work In Restricted Working Space, Add	9.11	
22 11 16 00-0396	LF		4" Hard Drawn Type K Copper Tube/Pipe	109.25	11.16
			For Medical/Oxygen Service Tubing, Add	5.99	
			For Up To 20, Add	12.80	
			For >200, Deduct	-7.49	
			For Work In Restricted Working Space, Add	10.32	
22 11 16 00-0397	LF		5" Hard Drawn Type K Copper Tube/Pipe	177.77	12.82
			For Medical/Oxygen Service Tubing, Add	10.97	
			For Up To 20, Add	21.21	
			For >200, Deduct	-13.72	
			For Work In Restricted Working Space, Add	12.18	
22 11 16 00-0398	LF		6" Hard Drawn Type K Copper Tube/Pipe	262.28	19.86
			For Medical/Oxygen Service Tubing, Add	15.75	
			For Up To 20, Add	31.15	
			For >200, Deduct	-19.68	
			For Work In Restricted Working Space, Add	19.64	
22 11 16 00-0399	LF		8" Hard Drawn Type K Copper Tube/Pipe	440.67	22.08
			For Medical/Oxygen Service Tubing, Add	29.48	
			For Up To 20, Add	53.28	
			For >200, Deduct	-36.85	
			For Work In Restricted Working Space, Add	21.64	
22 11 16 00-0400			Hard Drawn Type M Copper Tube/Pipe (22 11 16 00-0369)		
22 11 16 00-0401	LF		3/8" Hard Drawn Type M Copper Tube/Pipe	5.08	2.35
			For Up To 20, Add	0.55	
			For >200, Deduct	-0.17	
			For Work In Restricted Working Space, Add	1.02	



	Plumbing	22	
	Plumbing Piping	22 10	22
	Facility Water Distribution	22 11	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0402	LF	1/2"	Hard Drawn Type M Copper Tube/Pipe	5.40	2.45
			For Up To 20, Add	0.59	
			For >200, Deduct	-0.19	
			For Work In Restricted Working Space, Add	1.05	
22 11 16 00-0403	LF	3/4"	Hard Drawn Type M Copper Tube/Pipe	6.80	2.60
			For Up To 20, Add	0.76	
			For >200, Deduct	-0.31	
			For Work In Restricted Working Space, Add	1.12	
22 11 16 00-0404	LF	1"	Hard Drawn Type M Copper Tube/Pipe	8.90	2.92
			For Up To 20, Add	1.01	
			For >200, Deduct	-0.47	
			For Work In Restricted Working Space, Add	1.25	
22 11 16 00-0405	LF	1-1/4"	Hard Drawn Type M Copper Tube/Pipe	13.31	4.34
			For Up To 20, Add	1.50	
			For >200, Deduct	-0.69	
			For Work In Restricted Working Space, Add	1.92	
22 11 16 00-0406	LF	1-1/2"	Hard Drawn Type M Copper Tube/Pipe	16.87	4.84
			For Up To 20, Add	1.93	
			For >200, Deduct	-0.95	
			For Work In Restricted Working Space, Add	2.21	
22 11 16 00-0407	LF	2"	Hard Drawn Type M Copper Tube/Pipe	24.10	5.97
			For Up To 20, Add	2.78	
			For >200, Deduct	-1.50	
			For Work In Restricted Working Space, Add	2.74	
22 11 16 00-0408	LF	2-1/2"	Hard Drawn Type M Copper Tube/Pipe	43.90	7.03
			For Up To 20, Add	4.93	
			For >200, Deduct	-2.17	
			For Work In Restricted Working Space, Add	6.65	
22 11 16 00-0409	LF	3"	Hard Drawn Type M Copper Tube/Pipe	53.80	8.28
			For Up To 20, Add	6.10	
			For >200, Deduct	-2.89	
			For Work In Restricted Working Space, Add	7.47	
22 11 16 00-0410	LF	4"	Hard Drawn Type M Copper Tube/Pipe	83.19	9.35
			For Up To 20, Add	9.67	
			For >200, Deduct	-5.41	
			For Work In Restricted Working Space, Add	8.72	
22 11 16 00-0411	LF	5"	Hard Drawn Type M Copper Tube/Pipe	138.63	10.73
			For Up To 20, Add	16.49	
			For >200, Deduct	-10.51	
			For Work In Restricted Working Space, Add	10.06	
22 11 16 00-0412	LF	6"	Hard Drawn Type M Copper Tube/Pipe	192.35	16.64
			For Up To 20, Add	22.75	
			For >200, Deduct	-14.04	
			For Work In Restricted Working Space, Add	15.58	
22 11 16 00-0413	LF	8"	Hard Drawn Type M Copper Tube/Pipe	323.21	18.49
			For Up To 20, Add	38.97	
			For >200, Deduct	-26.61	
			For Work In Restricted Working Space, Add	17.14	
22 11 16 00-0414			Soft Drawn Type L Copper Tube (22 11 16 00-0369)		
22 11 16 00-0415	LF	1/4"	Soft Drawn Type L Copper Tube	5.66	2.51
			For Up To 20, Add	0.61	
			For >200, Deduct	-0.19	
			For Work In Restricted Working Space, Add	1.13	
22 11 16 00-0416	LF	3/8"	Soft Drawn Type L Copper Tube	6.89	2.61
			For Up To 20, Add	0.76	
			For >200, Deduct	-0.30	
			For Work In Restricted Working Space, Add	1.18	
22 11 16 00-0417	LF	1/2"	Soft Drawn Type L Copper Tube	8.06	2.72
			For Up To 20, Add	0.91	
			For >200, Deduct	-0.40	
			For Work In Restricted Working Space, Add	1.22	
22 11 16 00-0418	LF	5/8"	Soft Drawn Type L Copper Tube	9.32	2.81
			For Up To 20, Add	1.06	
			For >200, Deduct	-0.51	
			For Work In Restricted Working Space, Add	1.26	
22 11 16 00-0419	LF	3/4"	Soft Drawn Type L Copper Tube	10.42	2.89
			For Up To 20, Add	1.19	
			For >200, Deduct	-0.61	
			For Work In Restricted Working Space, Add	1.30	
22 11 16 00-0420	LF	1"	Soft Drawn Type L Copper Tube	13.30	3.24
			For Up To 20, Add	1.54	
			For >200, Deduct	-0.84	
			For Work In Restricted Working Space, Add	1.46	
22 11 16 00-0421	LF	1-1/4"	Soft Drawn Type L Copper Tube	18.34	4.82
			For Up To 20, Add	2.11	
			For >200, Deduct	-1.11	
			For Work In Restricted Working Space, Add	2.17	
22 11 16 00-0422	LF	1-1/2"	Soft Drawn Type L Copper Tube	23.13	5.38
			For Up To 20, Add	2.69	
			For >200, Deduct	-1.51	
			For Work In Restricted Working Space, Add	2.42	

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0423	LF		2" Soft Drawn Type L Copper Tube	33.90	6.64
			For Up To 20, Add	3.99	
			For >200, Deduct	-2.40	
			For Work In Restricted Working Space, Add	2.99	
22 11 16 00-0424			Soft Drawn Type K Copper Tube (22 11 16 00-0369)		
22 11 16 00-0425	LF		1/4" Soft Drawn Type K Copper Tube	5.85	2.51
			For Up To 20, Add	0.64	
			For >200, Deduct	-0.21	
			For Work In Restricted Working Space, Add	1.13	
22 11 16 00-0426	LF		3/8" Soft Drawn Type K Copper Tube	7.51	2.61
			For Up To 20, Add	0.84	
			For >200, Deduct	-0.36	
			For Work In Restricted Working Space, Add	1.18	
22 11 16 00-0427	LF		1/2" Soft Drawn Type K Copper Tube	8.57	2.72
			For Up To 20, Add	0.97	
			For >200, Deduct	-0.45	
			For Work In Restricted Working Space, Add	1.22	
22 11 16 00-0428	LF		5/8" Soft Drawn Type K Copper Tube	9.57	2.81
			For Up To 20, Add	1.09	
			For >200, Deduct	-0.54	
			For Work In Restricted Working Space, Add	1.26	
22 11 16 00-0429	LF		3/4" Soft Drawn Type K Copper Tube	12.64	2.89
			For Up To 20, Add	1.47	
			For >200, Deduct	-0.83	
			For Work In Restricted Working Space, Add	1.30	
22 11 16 00-0430	LF		1" Soft Drawn Type K Copper Tube	15.89	3.24
			For Up To 20, Add	1.86	
			For >200, Deduct	-1.10	
			For Work In Restricted Working Space, Add	1.46	
22 11 16 00-0431	LF		1-1/4" Soft Drawn Type K Copper Tube	20.24	4.82
			For Up To 20, Add	2.35	
			For >200, Deduct	-1.30	
			For Work In Restricted Working Space, Add	2.17	
22 11 16 00-0432	LF		1-1/2" Soft Drawn Type K Copper Tube	26.15	5.38
			For Up To 20, Add	3.07	
			For >200, Deduct	-1.81	
			For Work In Restricted Working Space, Add	2.42	
22 11 16 00-0433	LF		2" Soft Drawn Type K Copper Tube	38.05	6.64
			For Up To 20, Add	4.51	
			For >200, Deduct	-2.81	
			For Work In Restricted Working Space, Add	2.99	
22 11 16 00-0434	LF		2-1/2" Soft Drawn Type K Copper Tube	54.07	7.97
			For Up To 20, Add	6.46	
			For >200, Deduct	-4.21	
			For Work In Restricted Working Space, Add	3.58	
22 11 16 00-0435	LF		3" Soft Drawn Type K Copper Tube	72.72	9.40
			For Up To 20, Add	8.74	
			For >200, Deduct	-5.86	
			For Work In Restricted Working Space, Add	4.23	
22 11 16 00-0436			Copper And Brass Fittings (22 11 16 00-0368)		
			Note: All fittings are based on 95/5 solder.		
22 11 16 00-0437			90 Degree Copper Elbows (22 11 16 00-0436)		
22 11 16 00-0438	EA		1/4" 90 Degree Copper Elbow	28.13	14.87
			For Silver Solder Instead Of 95/5 Solder, Add	3.64	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-2.52	
			For Brazed Fittings Instead Of 95/5 Solder, Add	3.34	
			For Street Fitting, Add	2.34	
			For Work In Restricted Working Space, Add	6.69	
22 11 16 00-0439	EA		3/8" 90 Degree Copper Elbow	32.92	17.83
			For Silver Solder Instead Of 95/5 Solder, Add	4.32	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-2.98	
			For Brazed Fittings Instead Of 95/5 Solder, Add	4.01	
			For Street Fitting, Add	2.47	
			For Work In Restricted Working Space, Add	8.02	
22 11 16 00-0440	EA		1/2" 90 Degree Copper Elbow	38.77	24.51
			For Silver Solder Instead Of 95/5 Solder, Add	5.62	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-3.78	
			For Brazed Fittings Instead Of 95/5 Solder, Add	5.52	
			For Street Fitting, Add	0.80	
			For Work In Restricted Working Space, Add	11.03	
22 11 16 00-0441	EA		3/4" 90 Degree Copper Elbow	50.19	30.53
			For Silver Solder Instead Of 95/5 Solder, Add	7.08	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-4.79	
			For Brazed Fittings Instead Of 95/5 Solder, Add	6.85	
			For Street Fitting, Add	1.80	
			For Work In Restricted Working Space, Add	13.70	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0442	EA	1"	90 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Street Fitting, Add For Work In Restricted Working Space, Add	65.62 8.74 -6.01 8.19 4.41 16.38	36.43
22 11 16 00-0443	EA	1-1/4"	90 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Street Fitting, Add For Work In Restricted Working Space, Add	75.52 9.68 -6.73 8.86 6.59 17.72	39.44
22 11 16 00-0444	EA	1-1/2"	90 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Street Fitting, Add For Work In Restricted Working Space, Add	90.39 10.98 -7.75 9.69 10.31 19.39	43.12
22 11 16 00-0445	EA	2"	90 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Street Fitting, Add For Work In Restricted Working Space, Add	119.39 13.21 -9.59 10.86 18.79 21.73	48.35
22 11 16 00-0446	EA	2-1/2"	90 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	160.77 15.43 -11.73 11.08 22.16	49.25
22 11 16 00-0447	EA	3"	90 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	210.79 19.36 -14.95 13.24 26.47	58.90
22 11 16 00-0448	EA	4"	90 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	422.53 33.64 -27.39 18.78 37.55	83.53
22 11 16 00-0449	EA	5"	90 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	1,417.05 87.99 -79.42 25.70 51.41	114.30
22 11 16 00-0450	EA	6"	90 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	1,909.95 120.43 -107.96 37.40 74.80	166.33
22 11 16 00-0451	EA	8"	90 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	6,475.88 357.04 -340.42 49.87 99.73	221.73
22 11 16 00-0452			90 Degree Brass Elbows (22 11 16 00-0436)		
22 11 16 00-0453	EA	1/2"	Drop Ear 90 Degree Brass Elbow..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	49.35 6.14 -4.31 5.52 11.03	24.51
22 11 16 00-0454	EA	3/4"	Drop Ear 90 Degree Brass Elbow..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	82.36 8.69 -6.40 6.85 13.70	30.53
22 11 16 00-0455	EA	1/2"	Flanged Sink 90 Degree Brass Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	59.70 6.66 -4.82 5.52 11.03	24.51
22 11 16 00-0456	EA	3/8"	Drop Ear 90 Degree Brass Elbow, Solder X Threaded..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	45.55 4.95 -3.61 4.01 8.02	17.83
22 11 16 00-0457	EA	1/2"	Drop Ear 90 Degree Brass Elbow, Solder X Threaded..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	50.24 6.19 -4.35 5.52 11.03	24.51

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0458	EA	3/4" Drop Ear 90 Degree Brass Elbow, Solder X Threaded.....	69.39	30.53
		For Silver Solder Instead Of 95/5 Solder, Add	8.04	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-5.75	
		For Brazed Fittings Instead Of 95/5 Solder, Add	6.85	
		For Work In Restricted Working Space, Add	13.70	
22 11 16 00-0459	EA	1" Drop Ear 90 Degree Brass Elbow, Solder X Threaded.....	130.29	36.43
		For Silver Solder Instead Of 95/5 Solder, Add	11.97	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-9.24	
		For Brazed Fittings Instead Of 95/5 Solder, Add	8.19	
		For Work In Restricted Working Space, Add	16.38	
22 11 16 00-0460 Reducing 90 Degree Copper Elbows (22 11 16 00-0436)				
22 11 16 00-0461	EA	1/2" Reducing 90 Degree Copper Elbow	53.02	24.51
		For Silver Solder Instead Of 95/5 Solder, Add	6.33	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-4.49	
		For Brazed Fittings Instead Of 95/5 Solder, Add	5.52	
		For Work In Restricted Working Space, Add	11.03	
22 11 16 00-0462	EA	3/4" Reducing 90 Degree Copper Elbow	57.20	30.53
		For Silver Solder Instead Of 95/5 Solder, Add	7.43	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-5.14	
		For Brazed Fittings Instead Of 95/5 Solder, Add	6.85	
		For Work In Restricted Working Space, Add	13.70	
22 11 16 00-0463	EA	1" Reducing 90 Degree Copper Elbow	75.75	36.43
		For Silver Solder Instead Of 95/5 Solder, Add	9.25	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-6.52	
		For Brazed Fittings Instead Of 95/5 Solder, Add	8.19	
		For Work In Restricted Working Space, Add	16.38	
22 11 16 00-0464	EA	1-1/4" Reducing 90 Degree Copper Elbow	112.92	39.44
		For Silver Solder Instead Of 95/5 Solder, Add	11.55	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-8.60	
		For Brazed Fittings Instead Of 95/5 Solder, Add	8.86	
		For Work In Restricted Working Space, Add	17.72	
22 11 16 00-0465	EA	1-1/2" Reducing 90 Degree Copper Elbow	135.41	43.12
		For Silver Solder Instead Of 95/5 Solder, Add	13.23	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-10.00	
		For Brazed Fittings Instead Of 95/5 Solder, Add	9.69	
		For Work In Restricted Working Space, Add	19.39	
22 11 16 00-0466	EA	2" Reducing 90 Degree Copper Elbow	167.70	48.35
		For Silver Solder Instead Of 95/5 Solder, Add	15.63	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-12.01	
		For Brazed Fittings Instead Of 95/5 Solder, Add	10.86	
		For Work In Restricted Working Space, Add	21.73	
22 11 16 00-0467 45 Degree Copper Elbows (22 11 16 00-0436)				
22 11 16 00-0468	EA	1/4" 45 Degree Copper Elbow	33.20	14.87
		For Silver Solder Instead Of 95/5 Solder, Add	3.89	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-2.77	
		For Brazed Fittings Instead Of 95/5 Solder, Add	3.34	
		For Street Fitting, Add	4.36	
		For Work In Restricted Working Space, Add	6.69	
22 11 16 00-0469	EA	3/8" 45 Degree Copper Elbow	36.09	17.83
		For Silver Solder Instead Of 95/5 Solder, Add	4.48	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-3.14	
		For Brazed Fittings Instead Of 95/5 Solder, Add	4.01	
		For Street Fitting, Add	3.74	
		For Work In Restricted Working Space, Add	8.02	
22 11 16 00-0470	EA	1/2" 45 Degree Copper Elbow	40.44	24.51
		For Silver Solder Instead Of 95/5 Solder, Add	5.70	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-3.86	
		For Brazed Fittings Instead Of 95/5 Solder, Add	5.52	
		For Street Fitting, Add	1.47	
		For Work In Restricted Working Space, Add	11.03	
22 11 16 00-0471	EA	3/4" 45 Degree Copper Elbow	51.97	30.53
		For Silver Solder Instead Of 95/5 Solder, Add	7.17	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-4.88	
		For Brazed Fittings Instead Of 95/5 Solder, Add	6.85	
		For Street Fitting, Add	2.52	
		For Work In Restricted Working Space, Add	13.70	
22 11 16 00-0472	EA	1" 45 Degree Copper Elbow	70.29	36.43
		For Silver Solder Instead Of 95/5 Solder, Add	8.97	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-6.24	
		For Brazed Fittings Instead Of 95/5 Solder, Add	8.19	
		For Street Fitting, Add	6.28	
		For Work In Restricted Working Space, Add	16.38	
22 11 16 00-0473	EA	1-1/4" 45 Degree Copper Elbow	80.31	39.44
		For Silver Solder Instead Of 95/5 Solder, Add	9.92	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-6.97	
		For Brazed Fittings Instead Of 95/5 Solder, Add	8.86	
		For Street Fitting, Add	8.50	
		For Work In Restricted Working Space, Add	17.72	



Plumbing			22
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Facility Water Distribution			22 11

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0474	EA	1-1/2"	45 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Street Fitting, Add For Work In Restricted Working Space, Add	90.72 11.00 -7.77 9.69 10.44 19.39	43.12
22 11 16 00-0475	EA	2"	45 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	115.94 13.04 -9.42 10.86 21.73	48.35
22 11 16 00-0476	EA	2-1/2"	45 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	159.72 15.37 -11.68 11.08 22.16	49.25
22 11 16 00-0477	EA	3"	45 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	215.62 19.61 -15.19 13.24 26.47	58.90
22 11 16 00-0478	EA	4"	45 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	396.80 32.36 -26.10 18.78 37.55	83.53
22 11 16 00-0479	EA	5"	45 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	1,223.30 78.30 -69.73 25.70 51.41	114.30
22 11 16 00-0480	EA	6"	45 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	1,907.11 120.29 -107.82 37.40 74.80	166.33
22 11 16 00-0481	EA	8"	45 Degree Copper Elbow For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	5,965.50 331.52 -314.90 49.87 99.73	221.73
22 11 16 00-0482	Straight Copper And Brass Tees (22 11 16 00-0436)				
22 11 16 00-0483	EA	1/4"	Straight Copper Tee For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	45.67 5.63 -3.96 5.01 10.03	22.29
22 11 16 00-0484	EA	3/8"	Straight Copper Tee For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	49.97 6.51 -4.50 6.02 12.04	26.74
22 11 16 00-0485	EA	1/2"	Straight Copper Tee For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	59.16 8.53 -5.74 8.36 16.71	37.21
22 11 16 00-0486	EA	3/4"	Straight Copper Tee For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	77.32 10.77 -7.32 10.36 20.72	46.13
22 11 16 00-0487	EA	1"	Straight Copper Tee For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	107.22 13.61 -9.48 12.37 24.74	55.04
22 11 16 00-0488	EA	1-1/4"	Straight Copper Tee For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	123.64 15.10 -10.64 13.37 26.74	59.49
22 11 16 00-0489	EA	1-1/2"	Straight Copper Tee For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	149.13 17.15 -12.30 14.54 29.08	64.62
22 11 16 00-0490	EA	2"	Straight Copper Tee For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	192.17 20.53 -15.07 16.38 32.76	72.87

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0491 EA 2-1/2" Straight Copper Tee.....	265.71	73.87
For Silver Solder Instead Of 95/5 Solder, Add	24.37	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-18.83	
For Brazed Fittings Instead Of 95/5 Solder, Add	16.62	
For Work In Restricted Working Space, Add	33.24	
22 11 16 00-0492 EA 3" Straight Copper Tee.....	370.03	88.96
For Silver Solder Instead Of 95/5 Solder, Add	31.84	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-25.17	
For Brazed Fittings Instead Of 95/5 Solder, Add	20.01	
For Work In Restricted Working Space, Add	40.01	
22 11 16 00-0493 EA 4" Straight Copper Tee.....	759.50	124.56
For Silver Solder Instead Of 95/5 Solder, Add	56.65	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-47.31	
For Brazed Fittings Instead Of 95/5 Solder, Add	28.01	
For Work In Restricted Working Space, Add	56.02	
22 11 16 00-0494 EA 5" Straight Copper Tee.....	2,127.81	170.43
For Silver Solder Instead Of 95/5 Solder, Add	131.94	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-119.16	
For Brazed Fittings Instead Of 95/5 Solder, Add	38.32	
For Work In Restricted Working Space, Add	76.64	
22 11 16 00-0495 EA 6" Straight Copper Tee.....	2,933.96	249.84
For Silver Solder Instead Of 95/5 Solder, Add	184.15	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-165.42	
For Brazed Fittings Instead Of 95/5 Solder, Add	56.18	
For Work In Restricted Working Space, Add	112.35	
22 11 16 00-0496 EA 8" Straight Copper Tee.....	10,371.63	332.64
For Silver Solder Instead Of 95/5 Solder, Add	568.45	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-543.51	
For Brazed Fittings Instead Of 95/5 Solder, Add	74.80	
For Work In Restricted Working Space, Add	149.60	
22 11 16 00-0497 EA 1/2" Cast Bronze Drop Ear Tee.....	76.91	37.21
For Silver Solder Instead Of 95/5 Solder, Add	9.42	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-6.63	
For Brazed Fittings Instead Of 95/5 Solder, Add	8.36	
For Work In Restricted Working Space, Add	16.71	
22 11 16 00-0498 Reducing Copper Tees (22 11 16 00-0436)		
22 11 16 00-0499 EA 3/8" Reducing Copper Tee.....	55.13	23.73
For Silver Solder Instead Of 95/5 Solder, Add	6.32	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-4.54	
For Brazed Fittings Instead Of 95/5 Solder, Add	5.35	
For Work In Restricted Working Space, Add	10.70	
22 11 16 00-0500 EA 1/2" Reducing Copper Tee.....	67.28	33.43
For Silver Solder Instead Of 95/5 Solder, Add	8.38	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-5.87	
For Brazed Fittings Instead Of 95/5 Solder, Add	7.52	
For Work In Restricted Working Space, Add	15.04	
22 11 16 00-0501 EA 3/4" Reducing Copper Tee.....	73.36	43.12
For Silver Solder Instead Of 95/5 Solder, Add	10.13	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-6.90	
For Brazed Fittings Instead Of 95/5 Solder, Add	9.69	
For Work In Restricted Working Space, Add	19.39	
22 11 16 00-0502 EA 1" Reducing Copper Tee.....	105.76	52.03
For Silver Solder Instead Of 95/5 Solder, Add	13.09	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-9.19	
For Brazed Fittings Instead Of 95/5 Solder, Add	11.70	
For Work In Restricted Working Space, Add	23.40	
22 11 16 00-0503 EA 1-1/4" Reducing Copper Tee.....	126.81	56.49
For Silver Solder Instead Of 95/5 Solder, Add	14.81	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-10.57	
For Brazed Fittings Instead Of 95/5 Solder, Add	12.70	
For Work In Restricted Working Space, Add	25.40	
22 11 16 00-0504 EA 1-1/2" Reducing Copper Tee.....	152.03	61.73
For Silver Solder Instead Of 95/5 Solder, Add	16.85	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-12.23	
For Brazed Fittings Instead Of 95/5 Solder, Add	13.87	
For Work In Restricted Working Space, Add	27.74	
22 11 16 00-0505 EA 2" Reducing Copper Tee.....	189.72	69.08
For Silver Solder Instead Of 95/5 Solder, Add	19.85	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-14.67	
For Brazed Fittings Instead Of 95/5 Solder, Add	15.54	
For Work In Restricted Working Space, Add	31.09	
22 11 16 00-0506 EA 2-1/2" Reducing Copper Tee.....	276.40	71.21
For Silver Solder Instead Of 95/5 Solder, Add	24.49	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-19.16	
For Brazed Fittings Instead Of 95/5 Solder, Add	16.01	
For Work In Restricted Working Space, Add	32.01	
22 11 16 00-0507 EA 3" Reducing Copper Tee.....	401.79	82.08
For Silver Solder Instead Of 95/5 Solder, Add	32.40	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-26.25	
For Brazed Fittings Instead Of 95/5 Solder, Add	18.47	
For Work In Restricted Working Space, Add	36.94	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0508	EA		4" Reducing Copper Tee For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	738.48 52.11 -44.52 22.78 45.56	101.27
22 11 16 00-0509 Copper Couplings (22 11 16 00-0436)					
22 11 16 00-0510	EA		1/4" Copper Coupling..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	23.46 3.40 -2.29 3.34 6.69	14.87
22 11 16 00-0511	EA		3/8" Copper Coupling..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	28.30 4.09 -2.75 4.01 8.02	17.83
22 11 16 00-0512	EA		1/2" Copper Coupling..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	38.05 5.58 -3.74 5.52 11.03	24.51
22 11 16 00-0513	EA		3/4" Copper Coupling..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	48.30 6.98 -4.70 6.85 13.70	30.53
22 11 16 00-0514	EA		1" Copper Coupling..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	59.78 8.45 -5.72 8.19 16.38	36.43
22 11 16 00-0515	EA		1-1/4" Copper Coupling For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	68.18 9.31 -6.36 8.86 17.72	39.44
22 11 16 00-0516	EA		1-1/2" Copper Coupling For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	76.70 10.30 -7.07 9.69 19.39	43.12
22 11 16 00-0517	EA		2" Copper Coupling..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	92.51 11.87 -8.25 10.86 21.73	47.91
22 11 16 00-0518	EA		2-1/2" Copper Coupling For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	108.73 12.41 -8.93 10.47 20.93	46.58
22 11 16 00-0519	EA		3" Copper Coupling..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	137.17 15.27 -11.07 12.62 25.24	56.43
22 11 16 00-0520	EA		4" Copper Coupling..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	229.70 22.77 -17.13 16.93 33.86	75.93
22 11 16 00-0521	EA		5" Copper Coupling..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	397.39 35.26 -27.57 23.09 46.17	138.51
22 11 16 00-0522	EA		6" Copper Coupling..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	628.10 53.98 -42.69 33.86 67.72	150.52
22 11 16 00-0523	EA		8" Copper Coupling..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	1,603.91 110.16 -95.18 44.94 89.88	199.57
22 11 16 00-0524 Reducing Copper Couplings (22 11 16 00-0436)					
22 11 16 00-0525	EA		3/8" Reducing Copper Coupling For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	24.85 3.47 -2.36 3.34 6.69	14.82

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0526 EA 1/2" Reducing Copper Coupling.....	34.43	21.17
For Silver Solder Instead Of 95/5 Solder, Add	4.90	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-3.31	
For Brazed Fittings Instead Of 95/5 Solder, Add	4.76	
For Work In Restricted Working Space, Add	9.53	
22 11 16 00-0527 EA 3/4" Reducing Copper Coupling.....	45.84	27.52
For Silver Solder Instead Of 95/5 Solder, Add	6.41	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-4.35	
For Brazed Fittings Instead Of 95/5 Solder, Add	6.18	
For Work In Restricted Working Space, Add	12.37	
22 11 16 00-0528 EA 1" Reducing Copper Coupling.....	56.49	33.43
For Silver Solder Instead Of 95/5 Solder, Add	7.94	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-5.43	
For Brazed Fittings Instead Of 95/5 Solder, Add	7.52	
For Work In Restricted Working Space, Add	15.04	
22 11 16 00-0529 EA 1-1/4" Reducing Copper Coupling.....	68.45	37.88
For Silver Solder Instead Of 95/5 Solder, Add	9.10	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-6.26	
For Brazed Fittings Instead Of 95/5 Solder, Add	8.52	
For Work In Restricted Working Space, Add	17.05	
22 11 16 00-0530 EA 1-1/2" Reducing Copper Coupling.....	81.10	41.22
For Silver Solder Instead Of 95/5 Solder, Add	10.24	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-7.15	
For Brazed Fittings Instead Of 95/5 Solder, Add	9.28	
For Work In Restricted Working Space, Add	18.55	
22 11 16 00-0531 EA 2" Reducing Copper Coupling.....	98.31	45.68
For Silver Solder Instead Of 95/5 Solder, Add	11.77	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-8.34	
For Brazed Fittings Instead Of 95/5 Solder, Add	10.28	
For Work In Restricted Working Space, Add	20.56	
22 11 16 00-0532 EA 2-1/2" Reducing Copper Coupling.....	128.09	46.89
For Silver Solder Instead Of 95/5 Solder, Add	13.43	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-9.92	
For Brazed Fittings Instead Of 95/5 Solder, Add	10.54	
For Work In Restricted Working Space, Add	21.08	
22 11 16 00-0533 EA 3" Reducing Copper Coupling.....	152.52	54.38
For Silver Solder Instead Of 95/5 Solder, Add	15.73	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-11.68	
For Brazed Fittings Instead Of 95/5 Solder, Add	12.16	
For Work In Restricted Working Space, Add	24.32	
22 11 16 00-0534 EA 4" Reducing Copper Coupling.....	248.59	71.21
For Silver Solder Instead Of 95/5 Solder, Add	23.10	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-17.77	
For Brazed Fittings Instead Of 95/5 Solder, Add	16.01	
For Work In Restricted Working Space, Add	32.01	
22 11 16 00-0535 EA 5" Reducing Copper Coupling.....	703.58	99.21
For Silver Solder Instead Of 95/5 Solder, Add	50.06	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-42.62	
For Brazed Fittings Instead Of 95/5 Solder, Add	22.32	
For Work In Restricted Working Space, Add	44.63	
22 11 16 00-0536 EA 6" Reducing Copper Coupling.....	1,059.22	133.38
For Silver Solder Instead Of 95/5 Solder, Add	72.97	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-62.97	
For Brazed Fittings Instead Of 95/5 Solder, Add	30.01	
For Work In Restricted Working Space, Add	60.02	
22 11 16 00-0537 EA 8" Reducing Copper Coupling.....	2,112.69	194.37
For Silver Solder Instead Of 95/5 Solder, Add	134.77	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-120.20	
For Brazed Fittings Instead Of 95/5 Solder, Add	43.71	
For Work In Restricted Working Space, Add	87.42	
22 11 16 00-0538 Male Copper Adapters (22 11 16 00-0436)		
22 11 16 00-0539 EA 1/4" Male Copper Adapter.....	42.94	14.48
For Silver Solder Instead Of 95/5 Solder, Add	4.38	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-3.26	
For Brazed Fittings Instead Of 95/5 Solder, Add	3.34	
For Work In Restricted Working Space, Add	6.69	
22 11 16 00-0540 EA 3/8" Male Copper Adapter.....	37.04	17.83
For Silver Solder Instead Of 95/5 Solder, Add	4.53	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-3.19	
For Brazed Fittings Instead Of 95/5 Solder, Add	4.01	
For Work In Restricted Working Space, Add	8.02	
22 11 16 00-0541 EA 1/2" Male Copper Adapter.....	37.60	22.29
For Silver Solder Instead Of 95/5 Solder, Add	5.22	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-3.55	
For Brazed Fittings Instead Of 95/5 Solder, Add	5.01	
For Work In Restricted Working Space, Add	10.03	
22 11 16 00-0542 EA 3/4" Male Copper Adapter.....	48.29	27.86
For Silver Solder Instead Of 95/5 Solder, Add	6.54	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-4.48	
For Brazed Fittings Instead Of 95/5 Solder, Add	6.18	
For Work In Restricted Working Space, Add	12.37	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0543	EA		1" Male Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	65.89 8.09 -5.69 7.19 14.37	32.31
22 11 16 00-0544	EA		1-1/4" Male Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	81.87 9.66 -6.88 8.36 16.71	36.77
22 11 16 00-0545	EA		1-1/2" Male Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	94.12 11.06 -7.88 9.53 19.05	42.34
22 11 16 00-0546	EA		2" Male Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	133.15 14.79 -10.72 12.20 24.40	54.03
22 11 16 00-0547	EA		2-1/2" Male Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	260.21 23.48 -18.25 15.71 31.42	70.19
22 11 16 00-0548	EA		3" Male Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	345.37 31.22 -24.25 20.93 41.86	93.62
22 11 16 00-0549	EA		4" Male Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	526.17 46.01 -36.16 29.55 59.10	131.34
22 11 16 00-0550			Female Copper Adapters (22 11 16 00-0436)		
22 11 16 00-0551	EA		1/4" Female Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	35.48 4.00 -2.89 3.34 6.69	14.48
22 11 16 00-0552	EA		3/8" Female Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	40.54 4.70 -3.36 4.01 8.02	17.83
22 11 16 00-0553	EA		1/2" Female Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	40.11 5.35 -3.68 5.01 10.03	22.29
22 11 16 00-0554	EA		3/4" Female Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	50.35 6.64 -4.58 6.18 12.37	27.86
22 11 16 00-0555	EA		1" Female Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	68.78 8.23 -5.83 7.19 14.37	32.31
22 11 16 00-0556	EA		1-1/4" Female Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	86.32 9.89 -7.10 8.36 16.71	36.77
22 11 16 00-0557	EA		1-1/2" Female Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	111.43 11.92 -8.75 9.53 19.05	42.34
22 11 16 00-0558	EA		2" Female Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	146.34 15.45 -11.38 12.20 24.40	54.03
22 11 16 00-0559	EA		2-1/2" Female Copper Adapter For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	315.83 25.44 -20.61 14.47 28.94	64.64

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0560	EA	3" Female Copper Adapter	509.09	93.62
		For Silver Solder Instead Of 95/5 Solder, Add	39.41	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-32.43	
		For Brazed Fittings Instead Of 95/5 Solder, Add	20.93	
		For Work In Restricted Working Space, Add	41.86	
22 11 16 00-0561		Wrot Copper, Solder Union (22 11 16 00-0436)		
22 11 16 00-0562	EA	1/4" Wrot Copper, Solder Union	39.54	17.83
		For Silver Solder Instead Of 95/5 Solder, Add	4.65	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-3.31	
		For Brazed Fittings Instead Of 95/5 Solder, Add	4.01	
		For Work In Restricted Working Space, Add	8.02	
22 11 16 00-0563	EA	3/8" Wrot Copper, Solder Union	45.49	21.50
		For Silver Solder Instead Of 95/5 Solder, Add	5.51	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-3.69	
		For Brazed Fittings Instead Of 95/5 Solder, Add	4.85	
		For Work In Restricted Working Space, Add	9.69	
22 11 16 00-0564	EA	1/2" Wrot Copper, Solder Union	48.27	26.74
		For Silver Solder Instead Of 95/5 Solder, Add	6.43	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-4.42	
		For Brazed Fittings Instead Of 95/5 Solder, Add	6.02	
		For Work In Restricted Working Space, Add	12.04	
22 11 16 00-0565	EA	3/4" Wrot Copper, Solder Union	55.70	30.53
		For Silver Solder Instead Of 95/5 Solder, Add	7.35	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-5.07	
		For Brazed Fittings Instead Of 95/5 Solder, Add	6.85	
		For Work In Restricted Working Space, Add	13.70	
22 11 16 00-0566	EA	1" Wrot Copper, Solder Union	71.82	36.43
		For Silver Solder Instead Of 95/5 Solder, Add	9.05	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-6.32	
		For Brazed Fittings Instead Of 95/5 Solder, Add	8.19	
		For Work In Restricted Working Space, Add	16.38	
22 11 16 00-0567	EA	1-1/4" Wrot Copper, Solder Union	85.11	40.12
		For Silver Solder Instead Of 95/5 Solder, Add	10.27	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-7.26	
		For Brazed Fittings Instead Of 95/5 Solder, Add	9.03	
		For Work In Restricted Working Space, Add	18.05	
22 11 16 00-0568	EA	1-1/2" Wrot Copper, Solder Union	102.02	44.57
		For Silver Solder Instead Of 95/5 Solder, Add	11.79	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-8.44	
		For Brazed Fittings Instead Of 95/5 Solder, Add	10.03	
		For Work In Restricted Working Space, Add	20.06	
22 11 16 00-0569	EA	2" Wrot Copper, Solder Union	140.16	53.48
		For Silver Solder Instead Of 95/5 Solder, Add	15.03	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-11.02	
		For Brazed Fittings Instead Of 95/5 Solder, Add	12.03	
		For Work In Restricted Working Space, Add	24.07	
22 11 16 00-0570	EA	2-1/2" Wrot Copper, Solder Union	251.70	58.90
		For Silver Solder Instead Of 95/5 Solder, Add	21.41	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-17.00	
		For Brazed Fittings Instead Of 95/5 Solder, Add	13.24	
		For Work In Restricted Working Space, Add	26.47	
22 11 16 00-0571	EA	3" Wrot Copper, Solder Union	548.16	83.53
		For Silver Solder Instead Of 95/5 Solder, Add	39.93	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-33.67	
		For Brazed Fittings Instead Of 95/5 Solder, Add	18.78	
		For Work In Restricted Working Space, Add	37.55	
22 11 16 00-0572		Cast Bronze, Solder Union (22 11 16 00-0436)		
22 11 16 00-0573	EA	1/4" Cast Bronze, Solder Union	44.25	17.83
		For Silver Solder Instead Of 95/5 Solder, Add	4.89	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-3.55	
		For Brazed Fittings Instead Of 95/5 Solder, Add	4.01	
		For Work In Restricted Working Space, Add	8.02	
22 11 16 00-0574	EA	3/8" Cast Bronze, Solder Union	49.95	21.50
		For Silver Solder Instead Of 95/5 Solder, Add	5.73	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-4.11	
		For Brazed Fittings Instead Of 95/5 Solder, Add	4.85	
		For Work In Restricted Working Space, Add	9.69	
22 11 16 00-0575	EA	1/2" Cast Bronze, Solder Union	49.51	26.74
		For Silver Solder Instead Of 95/5 Solder, Add	6.49	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-4.48	
		For Brazed Fittings Instead Of 95/5 Solder, Add	6.02	
		For Work In Restricted Working Space, Add	12.04	
22 11 16 00-0576	EA	3/4" Cast Bronze, Solder Union	57.45	30.53
		For Silver Solder Instead Of 95/5 Solder, Add	7.44	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-5.16	
		For Brazed Fittings Instead Of 95/5 Solder, Add	6.85	
		For Work In Restricted Working Space, Add	13.70	
22 11 16 00-0577	EA	1" Cast Bronze, Solder Union	74.86	36.43
		For Silver Solder Instead Of 95/5 Solder, Add	9.20	
		For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-6.47	
		For Brazed Fittings Instead Of 95/5 Solder, Add	8.19	
		For Work In Restricted Working Space, Add	16.38	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0578	EA	1-1/4"	Cast Bronze, Solder Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	93.42 10.69 -7.68 9.03 18.05	40.12
22 11 16 00-0579	EA	1-1/2"	Cast Bronze, Solder Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	110.70 12.22 -8.88 10.03 20.06	44.57
22 11 16 00-0580	EA	2"	Cast Bronze, Solder Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	154.93 15.77 11.76 12.03 24.07	53.48
22 11 16 00-0581	EA	2-1/2"	Cast Bronze, Solder Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	251.69 21.41 -17.00 13.24 26.47	58.90
22 11 16 00-0582	EA	3"	Cast Bronze, Solder Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	548.16 39.93 -33.67 18.78 37.55	83.53
22 11 16 00-0583	Cast Bronze, Solder X Female Threaded Union (22 11 16 00-0436)				
22 11 16 00-0584	EA	1/4"	Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	50.63 5.21 -3.87 4.01 8.02	17.83
22 11 16 00-0585	EA	3/8"	Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	57.03 6.08 -4.47 4.85 9.69	21.50
22 11 16 00-0586	EA	1/2"	Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	59.75 7.00 -4.99 6.02 12.04	26.74
22 11 16 00-0587	EA	3/4"	Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	72.44 8.19 -5.91 6.85 13.70	30.53
22 11 16 00-0588	EA	1"	Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	110.26 10.97 -8.24 8.19 16.38	36.43
22 11 16 00-0589	EA	1-1/4"	Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	163.90 14.21 -11.20 9.03 18.05	40.12
22 11 16 00-0590	EA	1-1/2"	Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	198.27 16.60 -13.26 10.03 20.06	44.57
22 11 16 00-0591	EA	2"	Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	302.66 23.16 -19.14 12.03 24.07	53.48
22 11 16 00-0592	EA	2-1/2"	Cast Bronze, Solder X Female Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	509.91 34.32 -29.91 13.24 26.47	58.90
22 11 16 00-0593	Cast Bronze, Solder X Male Threaded Union (22 11 16 00-0436)				
22 11 16 00-0594	EA	1/4"	Cast Bronze, Solder X Male Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	44.94 4.92 -3.58 4.01 8.02	17.83
22 11 16 00-0595	EA	3/8"	Cast Bronze, Solder X Male Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	53.55 5.91 -4.29 4.85 9.69	21.50

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0596 EA 1/2" Cast Bronze, Solder X Male Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	55.62 6.79 -4.79 6.02 12.04	26.74
22 11 16 00-0597 EA 3/4" Cast Bronze, Solder X Male Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	68.94 8.02 -5.73 6.85 13.70	30.53
22 11 16 00-0598 EA 1" Cast Bronze, Solder X Male Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	111.86 11.05 -8.32 8.19 16.38	36.43
22 11 16 00-0599 EA 1-1/4" Cast Bronze, Solder X Male Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	131.20 12.58 -9.57 9.03 18.05	40.12
22 11 16 00-0600 EA 1-1/2" Cast Bronze, Solder X Male Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	141.47 13.76 -10.42 10.03 20.06	44.57
22 11 16 00-0601 EA 2" Cast Bronze, Solder X Male Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	194.82 17.76 -13.75 12.03 24.07	53.48
22 11 16 00-0602 EA 2-1/2" Cast Bronze, Solder X Male Threaded Union..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	424.08 30.03 -25.62 13.24 26.47	58.90
22 11 16 00-0603 Copper Caps (22 11 16 00-0436)		
22 11 16 00-0604 EA 1/4" Copper Cap..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	9.13 1.19 -0.82 1.10 2.21	4.90
22 11 16 00-0605 EA 3/8" Copper Cap..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	11.66 1.47 -1.02 1.32 2.65	5.79
22 11 16 00-0606 EA 1/2" Copper Cap..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	13.59 1.89 -1.29 1.82 3.64	8.03
22 11 16 00-0607 EA 3/4" Copper Cap..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	17.81 2.40 -1.64 2.26 4.52	9.92
22 11 16 00-0608 EA 1" Copper Cap..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	24.42 3.02 -2.12 2.70 5.41	11.92
22 11 16 00-0609 EA 1-1/4" Copper Cap..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	28.06 3.35 -2.38 2.92 5.85	12.81
22 11 16 00-0610 EA 1-1/2" Copper Cap..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	33.79 3.82 -2.76 3.20 6.40	14.04
22 11 16 00-0611 EA 2" Copper Cap..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	45.05 4.45 -3.35 3.30 6.60	14.57
22 11 16 00-0612 EA 2-1/2" Copper Cap..... For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	90.97 7.13 -5.84 3.88 7.76	17.03



Plumbing			22
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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0613	EA		3" Copper Cap For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	126.34 9.63 -7.97 4.96 9.93	21.86
22 11 16 00-0614	EA		4" Copper Cap For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	226.08 16.31 -13.81 7.51 15.02	33.04
22 11 16 00-0615	EA		5" Cast Bronze Cap For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	1,314.30 73.43 69.57 11.57 23.13	50.89
22 11 16 00-0616	EA		6" Cast Bronze Cap For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	2,577.13 140.08 -134.47 16.83 33.66	74.08
22 11 16 00-0617	EA		8" Cast Bronze Cap For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	3,277.97 178.86 -171.38 22.44 44.88	98.71
22 11 16 00-0618			Copper Crosses (22 11 16 00-0436)		
22 11 16 00-0619	EA		1/2" Copper Cross For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	90.68 11.31 -7.92 10.16 20.32	45.14
22 11 16 00-0620	EA		3/4" Copper Cross For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	128.76 14.85 -10.65 12.62 25.24	56.13
22 11 16 00-0621	EA		1" Copper Cross For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	176.35 18.87 -13.85 15.08 30.17	67.00
22 11 16 00-0622	EA		1-1/4" Copper Cross For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	217.70 21.76 -16.32 16.31 32.63	72.54
22 11 16 00-0623	EA		1-1/2" Copper Cross For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	274.31 25.62 -19.67 17.85 35.71	79.31
22 11 16 00-0624	EA		2" Copper Cross For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	426.74 34.68 -28.01 20.01 40.01	88.96
22 11 16 00-0625	EA		2-1/2" Copper Cross For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	823.96 55.97 -48.59 22.16 44.33	98.50
22 11 16 00-0626			Cast Bronze Crosses (22 11 16 00-0436)		
22 11 16 00-0627	EA		3/8" Cast Bronze Cross For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	79.86 8.92 -6.46 7.39 14.78	32.83
22 11 16 00-0628	EA		1/2" Cast Bronze Cross For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	95.27 11.54 -8.15 10.16 20.32	45.14
22 11 16 00-0629	EA		3/4" Cast Bronze Cross For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	137.68 15.30 -11.09 12.62 25.24	56.13
22 11 16 00-0630	EA		1" Cast Bronze Cross For Silver Solder Instead Of 95/5 Solder, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Brazed Fittings Instead Of 95/5 Solder, Add For Work In Restricted Working Space, Add	191.49 19.63 -14.60 15.08 30.17	67.00

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0631 EA 1-1/4" Cast Bronze Cross	239.49	72.54
For Silver Solder Instead Of 95/5 Solder, Add	22.85	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-17.41	
For Brazed Fittings Instead Of 95/5 Solder, Add	16.31	
For Work In Restricted Working Space, Add	32.63	
22 11 16 00-0632 EA 1-1/2" Cast Bronze Cross	305.36	79.31
For Silver Solder Instead Of 95/5 Solder, Add	27.17	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-21.22	
For Brazed Fittings Instead Of 95/5 Solder, Add	17.85	
For Work In Restricted Working Space, Add	35.71	
22 11 16 00-0633 EA 2" Cast Bronze Cross	465.49	88.96
For Silver Solder Instead Of 95/5 Solder, Add	36.61	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-29.94	
For Brazed Fittings Instead Of 95/5 Solder, Add	20.01	
For Work In Restricted Working Space, Add	40.01	
22 11 16 00-0634 EA 2-1/2" Cast Bronze Cross	959.20	98.50
For Silver Solder Instead Of 95/5 Solder, Add	62.74	
For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-55.35	
For Brazed Fittings Instead Of 95/5 Solder, Add	22.16	
For Work In Restricted Working Space, Add	44.33	
22 11 16 00-0635 Flexible Corrugated Copper Supply Line (22 11 16 00-0436)		
22 11 16 00-0636 EA 3/4" Threaded x 3/4" Solder x 18" Long, Flexible Corrugated Copper Supply Line	76.01	30.53
22 11 16 00-0637 EA 3/4" Threaded x 3/4" Solder x 24" Long, Flexible Corrugated Copper Supply Line	79.66	30.53
22 11 16 00-0638 EA 3/4" Threaded x 3/4" Threaded x 12" Long, Flexible Corrugated Copper Supply Line	69.45	30.53
22 11 16 00-0639 EA 3/4" Threaded x 3/4" Threaded x 15" Long, Flexible Corrugated Copper Supply Line	73.58	30.53
22 11 16 00-0640 EA 3/4" Threaded x 3/4" Threaded x 18" Long, Flexible Corrugated Copper Supply Line	77.23	30.53
22 11 16 00-0641 EA 3/4" Threaded x 3/4" Threaded x 24" Long, Flexible Corrugated Copper Supply Line	79.66	30.53
22 11 16 00-0642 Crimped Copper Fittings (22 11 16 00-0368)		
Note: Viega ProPress type. Includes factory installed ethylene propylene diene monomer (EPDM) sealing elements.		
22 11 16 00-0643 Crimped Copper 90 Degree Elbows (22 11 16 00-0642)		
22 11 16 00-0644 EA 1/2" Crimped Copper 90 Degree Elbow	25.66	13.38
22 11 16 00-0645 EA 3/4" Crimped Copper 90 Degree Elbow	32.35	15.27
22 11 16 00-0646 EA 1" Crimped Copper 90 Degree Elbow	46.34	18.16
22 11 16 00-0647 EA 1-1/4" Crimped Copper 90 Degree Elbow	68.54	20.05
22 11 16 00-0648 EA 1-1/2" Crimped Copper 90 Degree Elbow	106.25	22.29
22 11 16 00-0649 EA 2" Crimped Copper 90 Degree Elbow	141.33	26.74
22 11 16 00-0650 EA 2-1/2" Crimped Copper 90 Degree Elbow	340.77	31.20
22 11 16 00-0651 EA 3" Crimped Copper 90 Degree Elbow	425.57	37.10
22 11 16 00-0652 EA 4" Crimped Copper 90 Degree Elbow	531.13	49.03
22 11 16 00-0653 Crimped Copper 45 Degree Elbows (22 11 16 00-0642)		
22 11 16 00-0654 EA 1/2" Crimped Copper 45 Degree Elbow	26.59	13.38
22 11 16 00-0655 EA 3/4" Crimped Copper 45 Degree Elbow	30.86	15.27
22 11 16 00-0656 EA 1" Crimped Copper 45 Degree Elbow	53.07	18.16
22 11 16 00-0657 EA 1-1/4" Crimped Copper 45 Degree Elbow	67.05	20.05
22 11 16 00-0658 EA 1-1/2" Crimped Copper 45 Degree Elbow	93.38	22.29
22 11 16 00-0659 EA 2" Crimped Copper 45 Degree Elbow	123.97	26.74
22 11 16 00-0660 EA 2-1/2" Crimped Copper 45 Degree Elbow	240.98	31.20
22 11 16 00-0661 EA 3" Crimped Copper 45 Degree Elbow	333.16	37.10
22 11 16 00-0662 EA 4" Crimped Copper 45 Degree Elbow	458.84	49.03
22 11 16 00-0663 Crimped Copper Straight Tees (22 11 16 00-0642)		
22 11 16 00-0664 EA 1/2" Crimped Copper Straight Tee	38.66	20.05
22 11 16 00-0665 EA 3/4" Crimped Copper Straight Tee	54.67	26.41
22 11 16 00-0666 EA 1" Crimped Copper Straight Tee	71.28	29.30
22 11 16 00-0667 EA 1-1/4" Crimped Copper Straight Tee	91.24	30.08
22 11 16 00-0668 EA 1-1/2" Crimped Copper Straight Tee	140.88	34.20
22 11 16 00-0669 EA 2" Crimped Copper Straight Tee	170.89	40.12
22 11 16 00-0670 EA 2-1/2" Crimped Copper Straight Tee	433.40	46.79
22 11 16 00-0671 EA 3" Crimped Copper Straight Tee	537.56	55.71
22 11 16 00-0672 EA 4" Crimped Copper Straight Tee	747.34	73.53
22 11 16 00-0673 Crimped Copper Reducing Tees (22 11 16 00-0642)		
22 11 16 00-0674 EA 3/4" Crimped Copper Reducing Tee	51.97	19.06
22 11 16 00-0675 EA 1" Crimped Copper Reducing Tee	79.01	25.07
22 11 16 00-0676 EA 1-1/4" Crimped Copper Reducing Tee	83.97	27.86
22 11 16 00-0677 EA 1-1/2" Crimped Copper Reducing Tee	122.44	28.63
22 11 16 00-0678 EA 2" Crimped Copper Reducing Tee	149.34	32.42
22 11 16 00-0679 EA 2-1/2" Crimped Copper Reducing Tee	482.38	36.77
22 11 16 00-0680 EA 3" Crimped Copper Reducing Tee	589.18	44.57
22 11 16 00-0681 EA 4" Crimped Copper Reducing Tee	683.38	59.38



		Plumbing	22	
		Plumbing Piping	22 10	22
		Facility Water Distribution	22 11	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0682		Crimped Copper Couplings (22 11 16 00-0642)		
22 11 16 00-0683	EA	1/2" Crimped Copper Coupling	25.10	13.38
22 11 16 00-0684	EA	3/4" Crimped Copper Coupling	30.50	15.27
22 11 16 00-0685	EA	1" Crimped Copper Coupling	42.78	18.16
22 11 16 00-0686	EA	1-1/4" Crimped Copper Coupling	49.32	20.05
22 11 16 00-0687	EA	1-1/2" Crimped Copper Coupling	69.28	22.29
22 11 16 00-0688	EA	2" Crimped Copper Coupling	85.87	26.74
22 11 16 00-0689	EA	2-1/2" Crimped Copper Coupling	193.21	31.20
22 11 16 00-0690	EA	3" Crimped Copper Coupling	242.18	37.10
22 11 16 00-0691	EA	4" Crimped Copper Coupling	332.45	49.03
22 11 16 00-0692		Crimped Copper Reducing Couplings (22 11 16 00-0642)		
22 11 16 00-0693	EA	3/4" Crimped Copper Reducing Coupling	42.03	12.70
22 11 16 00-0694	EA	1" Crimped Copper Reducing Coupling	48.06	14.48
22 11 16 00-0695	EA	1-1/4" Crimped Copper Reducing Coupling	64.25	17.27
22 11 16 00-0696	EA	1-1/2" Crimped Copper Reducing Coupling	85.01	19.06
22 11 16 00-0697	EA	2" Crimped Copper Reducing Coupling	95.24	21.17
22 11 16 00-0698	EA	2-1/2" Crimped Copper FTG x C Reducing Coupling	210.84	25.29
22 11 16 00-0699	EA	3" Crimped Copper FTG x C Reducing Coupling	265.18	29.75
22 11 16 00-0700	EA	4" Crimped Copper FTG x C Reducing Coupling	343.68	39.33
22 11 16 00-0701		Crimped Copper Male Adapters (22 11 16 00-0642)		
22 11 16 00-0702	EA	1/2" Crimped Copper Male Adapter	26.22	13.38
22 11 16 00-0703	EA	3/4" Crimped Copper Male Adapter	34.03	15.27
22 11 16 00-0704	EA	1" Crimped Copper Male Adapter	47.82	18.16
22 11 16 00-0705	EA	1-1/4" Crimped Copper Male Adapter	75.08	20.05
22 11 16 00-0706	EA	1-1/2" Crimped Copper Male Adapter	96.55	22.29
22 11 16 00-0707	EA	2" Crimped Copper Male Adapter	161.67	26.74
22 11 16 00-0708	EA	2-1/2" Crimped Copper Male Adapter	340.77	31.20
22 11 16 00-0709	EA	3" Crimped Copper Male Adapter	425.57	37.10
22 11 16 00-0710	EA	4" Crimped Copper Male Adapter	501.65	49.03
22 11 16 00-0711		Crimped Copper Female Adapters (22 11 16 00-0642)		
22 11 16 00-0712	EA	1/2" Crimped Copper Female Adapter	27.51	13.38
22 11 16 00-0713	EA	3/4" Crimped Copper Female Adapter	34.99	15.27
22 11 16 00-0714	EA	1" Crimped Copper Female Adapter	49.70	18.16
22 11 16 00-0715	EA	1-1/4" Crimped Copper Female Adapter	80.68	20.05
22 11 16 00-0716	EA	1-1/2" Crimped Copper Female Adapter	107.01	22.29
22 11 16 00-0717	EA	2" Crimped Copper Female Adapter	165.03	26.74
22 11 16 00-0718		Crimped Copper Caps (22 11 16 00-0642)		
22 11 16 00-0719	EA	1/2" Crimped Copper Cap	20.86	6.69
22 11 16 00-0720	EA	3/4" Crimped Copper Cap	29.99	7.80
22 11 16 00-0721	EA	1" Crimped Copper Cap	41.57	8.91
22 11 16 00-0722	EA	1-1/4" Crimped Copper Cap	46.96	10.03
22 11 16 00-0723	EA	1-1/2" Crimped Copper Cap	66.75	11.47
22 11 16 00-0724	EA	2" Crimped Copper Cap	80.17	13.38
22 11 16 00-0725	EA	2-1/2" Crimped Copper Cap	215.62	15.60
22 11 16 00-0726	EA	3" Crimped Copper Cap	271.14	18.60
22 11 16 00-0727	EA	4" Crimped Copper Cap	360.95	24.51
22 11 16 00-0728		C x F NPT Crimped Bronze Unions (22 11 16 00-0642)		
22 11 16 00-0729	EA	1/2" C x F NPT Crimped Bronze Union	59.04	18.16
22 11 16 00-0730	EA	3/4" C x F NPT Crimped Bronze Union	74.24	22.40
22 11 16 00-0731	EA	1" C x F NPT Crimped Bronze Union	107.83	26.85
22 11 16 00-0732	EA	1-1/4" C x F NPT Crimped Bronze Union	132.10	30.97
22 11 16 00-0733	EA	1-1/2" C x F NPT Crimped Bronze Union	179.91	30.31
22 11 16 00-0734	EA	2" C x F NPT Crimped Bronze Union	243.87	43.90
22 11 16 00-0735		C x C Crimped Bronze Unions (22 11 16 00-0642)		
22 11 16 00-0736	EA	1/2" C x C Bronze Crimped Union	59.63	13.38
22 11 16 00-0737	EA	3/4" C x C Bronze Crimped Union	74.74	15.27
22 11 16 00-0738	EA	1" C x C Bronze Crimped Union	110.18	18.16
22 11 16 00-0739	EA	1-1/4" C x C Bronze Crimped Union	148.46	20.05
22 11 16 00-0740	EA	1-1/2" C x C Bronze Crimped Union	194.19	22.29
22 11 16 00-0741	EA	2" C x C Bronze Crimped Union	302.66	26.74
22 11 16 00-0742		C x Flange Crimped Bronze Flange (22 11 16 00-0642)		
22 11 16 00-0743	EA	2-1/2" C x Flange Crimped Bronze Flange	608.92	31.20
22 11 16 00-0744	EA	3" C x Flange Crimped Bronze Flange	660.74	37.10
22 11 16 00-0745	EA	4" C x Flange Crimped Bronze Flange	750.85	49.03

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0746		Field Installed FKM Seals (22 11 16 00-0642)		
Note: For vacuum systems. Includes removing factory installed ethylene propylene diene monomer (EPDM) seal and installing FKM seal.				
22 11 16 00-0747	EA	1/2" Field Installed FKM Seal.....	8.19	
Note: To be used in conjunction with fittings.				
22 11 16 00-0748	EA	3/4" Field Installed FKM Seal.....	10.70	
Note: To be used in conjunction with fittings.				
22 11 16 00-0749	EA	1" Field Installed FKM Seal.....	12.30	
Note: To be used in conjunction with fittings.				
22 11 16 00-0750	EA	1-1/4" Field Installed FKM Seal.....	14.25	
Note: To be used in conjunction with fittings.				
22 11 16 00-0751	EA	1-1/2" Field Installed FKM Seal.....	21.34	
Note: To be used in conjunction with fittings.				
22 11 16 00-0752	EA	2" Field Installed FKM Seal.....	23.47	
Note: To be used in conjunction with fittings.				
22 11 16 00-0753	EA	2-1/2" Field Installed FKM Seal.....	37.28	
Note: To be used in conjunction with fittings.				
22 11 16 00-0754	EA	3" Field Installed FKM Seal.....	42.49	
Note: To be used in conjunction with fittings.				
22 11 16 00-0755	EA	4" Field Installed FKM Seal.....	58.33	
Note: To be used in conjunction with fittings.				
22 11 16 00-0756		Cut And Prepare Existing In-Place Copper Pipe (22 11 16 00-0368)		
22 11 16 00-0757	EA	Up To 1/2", Cut And Prepare Existing In Place Copper Pipe.....	11.14	
22 11 16 00-0758	EA	3/4", Cut And Prepare Existing In Place Copper Pipe.....	12.04	
22 11 16 00-0759	EA	1", Cut And Prepare Existing In Place Copper Pipe.....	13.54	
22 11 16 00-0760	EA	1-1/4", Cut And Prepare Existing In Place Copper Pipe.....	14.20	
22 11 16 00-0761	EA	1-1/2", Cut And Prepare Existing In Place Copper Pipe.....	15.04	
22 11 16 00-0762	EA	2", Cut And Prepare Existing In Place Copper Pipe.....	16.55	
22 11 16 00-0763	EA	2-1/2", Cut And Prepare Existing In Place Copper Pipe.....	17.83	
22 11 16 00-0764	EA	3", Cut And Prepare Existing In Place Copper Pipe.....	21.06	
22 11 16 00-0765	EA	4", Cut And Prepare Existing In Place Copper Pipe.....	28.41	
22 11 16 00-0766	EA	6", Cut And Prepare Existing In Place Copper Pipe.....	40.61	
22 11 16 00-0767	EA	8", Cut And Prepare Existing In Place Copper Pipe.....	54.14	
22 11 16 00-0768		Sweat Brass Companion Flanges (22 11 16 00-0365)		
Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.				
22 11 16 00-0769	EA	1" Sweat Brass Companion Flange.....	89.00	17.13
22 11 16 00-0770	EA	1-1/4" Sweat Brass Companion Flange.....	96.99	18.88
22 11 16 00-0771	EA	1-1/2" Sweat Brass Companion Flange.....	145.45	20.52
22 11 16 00-0772	EA	2" Sweat Brass Companion Flange.....	199.60	22.77
22 11 16 00-0773	EA	2-1/2" Sweat Brass Companion Flange.....	241.84	27.40
22 11 16 00-0774	EA	3" Sweat Brass Companion Flange.....	261.68	35.91
22 11 16 00-0775	EA	4" Sweat Brass Companion Flange.....	354.10	42.79
22 11 16 00-0776	EA	5" Sweat Brass Companion Flange.....	667.50	52.41
22 11 16 00-0777	EA	6" Sweat Brass Companion Flange.....	749.95	76.15
22 11 16 00-0778	EA	8" Copper Companion Flange.....	1,816.36	108.63
22 11 16 00-0779		Brass Compression Fittings (22 11 16 00-0368)		
22 11 16 00-0780		Brass Compression Unions (22 11 16 00-0779)		
22 11 16 00-0781	EA	1/4" Brass Compression Union.....	19.14	12.04
22 11 16 00-0782	EA	3/8" Brass Compression Union.....	19.44	12.04
22 11 16 00-0783	EA	1/2" Brass Compression Union.....	20.35	12.04
22 11 16 00-0784	EA	5/8" Brass Compression Union.....	20.78	12.04
22 11 16 00-0785	EA	3/4" Brass Compression Union.....	29.39	12.04
22 11 16 00-0786	EA	3/8" x 1/4" Brass Compression Union.....	19.65	12.04
22 11 16 00-0787	EA	1/2" x 3/8" Brass Compression Union.....	20.42	12.04
22 11 16 00-0788	EA	5/8" x 3/8" Brass Compression Union.....	20.96	12.04
22 11 16 00-0789	EA	5/8" x 1/2" Brass Compression Union.....	21.82	12.04
22 11 16 00-0790		Brass Compression Union Elbows (22 11 16 00-0779)		
22 11 16 00-0791	EA	1/4" Brass Compression Union Elbow.....	20.35	12.04
22 11 16 00-0792	EA	3/8" Brass Compression Union Elbow.....	20.84	12.04
22 11 16 00-0793	EA	1/2" Brass Compression Union Elbow.....	21.92	12.04
22 11 16 00-0794	EA	5/8" Brass Compression Union Elbow.....	23.59	12.04
22 11 16 00-0795	EA	3/4" Brass Compression Union Elbow.....	30.12	12.04
22 11 16 00-0796	EA	3/8" x 1/4" Brass Compression Union Elbow.....	20.84	12.04
22 11 16 00-0797	EA	1/2" x 3/8" Brass Compression Union Elbow.....	21.92	12.04
22 11 16 00-0798	EA	5/8" x 3/8" Brass Compression Union Elbow.....	22.22	12.04
22 11 16 00-0799	EA	5/8" x 1/2" Brass Compression Union Elbow.....	27.12	12.04
22 11 16 00-0800		Brass Compression Union Tees (22 11 16 00-0779)		
22 11 16 00-0801	EA	1/4" Brass Compression Union Tee.....	20.72	12.04



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0802 EA 3/8" Brass Compression Union Tee.....	21.74	12.04
22 11 16 00-0803 EA 1/2" Brass Compression Union Tee.....	22.82	12.04
22 11 16 00-0804 EA 5/8" Brass Compression Union Tee.....	26.23	12.04
22 11 16 00-0805 EA 3/4" Brass Compression Union Tee.....	38.01	12.04
22 11 16 00-0806 EA 3/8" x 3/8" x 1/4" Brass Compression Union Tee.....	22.46	12.04
22 11 16 00-0807 EA 1/2" x 1/2" x 3/8" Brass Compression Union Tee.....	27.99	12.04
22 11 16 00-0808 EA 5/8" x 5/8" x 3/8" Brass Compression Union Tee.....	27.46	12.04
22 11 16 00-0809 EA 5/8" x 5/8" x 1/2" Brass Compression Union Tee.....	28.08	12.04
22 11 16 00-0810 Brass Compression Male Connectors (22 11 16 00-0779)		
22 11 16 00-0811 EA 1/4" Brass Compression Male Connector.....	18.93	12.04
22 11 16 00-0812 EA 3/8" Brass Compression Male Connector.....	19.32	12.04
22 11 16 00-0813 EA 1/2" Brass Compression Male Connector.....	20.00	12.04
22 11 16 00-0814 EA 5/8" Brass Compression Male Connector.....	21.02	12.04
22 11 16 00-0815 EA 3/4" Brass Compression Male Connector.....	25.98	11.92
22 11 16 00-0816 Brass Compression Female Connectors (22 11 16 00-0779)		
22 11 16 00-0817 EA 1/4" Brass Compression Female Connector.....	19.36	12.04
22 11 16 00-0818 EA 3/8" Brass Compression Female Connector.....	19.87	12.04
22 11 16 00-0819 EA 1/2" Brass Compression Female Connector.....	20.74	12.04
22 11 16 00-0820 EA 5/8" Brass Compression Female Connector.....	21.34	12.04
22 11 16 00-0821 EA 3/4" Brass Compression Female Connector.....	33.97	11.81
22 11 16 00-0822 Dielectric Fittings (22 11 16 00-0368)		
22 11 16 00-0823 Copper x Female Iron Pipe Thread Dielectric Unions (22 11 16 00-0822)		
22 11 16 00-0824 EA 1/2" Copper x Female Iron Pipe Thread Dielectric Union.....	47.42	26.74
22 11 16 00-0825 EA 3/4" Copper x Female Iron Pipe Thread Dielectric Union.....	52.98	30.53
22 11 16 00-0826 EA 1" Copper x Female Iron Pipe Thread Dielectric Union.....	62.97	33.56
22 11 16 00-0827 EA 1-1/4" Copper x Female Iron Pipe Thread Dielectric Union.....	76.22	36.94
22 11 16 00-0828 EA 1-1/2" Copper x Female Iron Pipe Thread Dielectric Union.....	92.06	41.04
22 11 16 00-0829 EA 2" Copper x Female Iron Pipe Thread Dielectric Union.....	116.86	49.25
22 11 16 00-0830 Female Brass Thread x Iron Pipe Thread Dielectric Unions (22 11 16 00-0822)		
22 11 16 00-0831 EA 1/2" Female Brass Thread x Iron Pipe Thread Dielectric Union.....	52.03	26.74
22 11 16 00-0832 EA 3/4" Female Brass Thread x Iron Pipe Thread Dielectric Union.....	60.57	30.53
22 11 16 00-0833 EA 1" Female Brass Thread x Iron Pipe Thread Dielectric Union.....	72.98	33.56
22 11 16 00-0834 EA 1-1/4" Female Brass Thread x Iron Pipe Thread Dielectric Union.....	89.50	36.94
22 11 16 00-0835 EA 1-1/2" Female Brass Thread x Iron Pipe Thread Dielectric Union.....	108.49	41.04
22 11 16 00-0836 EA 2" Female Brass Thread x Iron Pipe Thread Dielectric Union.....	136.13	49.25
22 11 16 00-0837 Female Iron Pipe Thread x Iron Pipe Thread Dielectric Unions (22 11 16 00-0822)		
22 11 16 00-0838 EA 1/2" Female Iron Pipe Thread x Iron Pipe Thread Dielectric Union.....	49.11	26.74
22 11 16 00-0839 EA 3/4" Female Iron Pipe Thread x Iron Pipe Thread Dielectric Union.....	55.75	30.53
22 11 16 00-0840 EA 1" Female Iron Pipe Thread x Iron Pipe Thread Dielectric Union.....	63.70	33.56
22 11 16 00-0841 EA 1-1/4" Female Iron Pipe Thread x Iron Pipe Thread Dielectric Union.....	73.65	36.94
22 11 16 00-0842 EA 1-1/2" Female Iron Pipe Thread x Iron Pipe Thread Dielectric Union.....	89.52	41.04
22 11 16 00-0843 EA 2" Female Iron Pipe Thread x Iron Pipe Thread Dielectric Union.....	114.82	49.25
22 11 16 00-0844 Copper x Female Iron Pipe Thread Dielectric Flanges (22 11 16 00-0822)		
22 11 16 00-0845 EA 2-1/2" Copper x Female Iron Pipe Thread Dielectric Flange.....	284.67	126.61
22 11 16 00-0846 EA 3" Copper x Female Iron Pipe Thread Dielectric Flange.....	356.41	159.45
22 11 16 00-0847 EA 4" Copper x Female Iron Pipe Thread Dielectric Flange.....	502.31	217.01
22 11 16 00-0848 Copper x Female Iron Pipe Thread x Iron Pipe Thread Dielectric Flanges (22 11 16 00-0822)		
22 11 16 00-0849 EA 2-1/2" Female Iron Pipe Thread x Iron Pipe Thread Dielectric Flange.....	286.58	126.61
22 11 16 00-0850 EA 3" Female Iron Pipe Thread x Iron Pipe Thread Dielectric Flange.....	371.52	159.45
22 11 16 00-0851 EA 4" Female Iron Pipe Thread x Iron Pipe Thread Dielectric Flange.....	676.67	217.01
22 11 16 00-0852 Brass Push-Fit Fittings (22 11 16)		
22 11 16 00-0853 EA 1/4" x 1/4" Brass Push-Fit Coupling.....	24.87	11.14
Note: (Sharkbite)		
22 11 16 00-0854 EA 3/8" x 3/8" Brass Push-Fit Coupling.....	31.26	11.88
Note: (Sharkbite)		
22 11 16 00-0855 EA 1/2" x 1/2" Brass Push-Fit Coupling.....	32.19	13.38
Note: (Sharkbite)		
22 11 16 00-0856 EA 5/8" x 5/8" Brass Push-Fit Coupling.....	37.27	14.26
Note: (Sharkbite)		
22 11 16 00-0857 EA 3/4" x 3/4" Brass Push-Fit Coupling.....	37.86	15.23
Note: (Sharkbite)		
22 11 16 00-0858 EA 1" x 1" Brass Push-Fit Coupling.....	53.82	18.20
Note: (Sharkbite)		

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0859	EA	1/2" x 3/8" Brass Push-Fit Reducing Coupling Note: (Sharkbite)	31.72	12.62
22 11 16 00-0860	EA	3/4" x 5/8" Brass Push-Fit Reducing Coupling Note: (Sharkbite)	36.89	13.82
22 11 16 00-0861	EA	1" x 3/4" Brass Push-Fit Reducing Coupling Note: (Sharkbite)	55.69	16.71
22 11 16 00-0862	EA	1/4" x 1/4" Brass Push-Fit Elbow Note: (Sharkbite)	26.06	11.14
22 11 16 00-0863	EA	3/8" x 3/8" Brass Push-Fit Elbow Note: (Sharkbite)	36.29	11.88
22 11 16 00-0864	EA	1/2" x 1/2" Brass Push-Fit Elbow Note: (Sharkbite)	32.83	13.38
22 11 16 00-0865	EA	5/8" x 5/8" Brass Push-Fit Elbow Note: (Sharkbite)	40.19	14.26
22 11 16 00-0866	EA	3/4" x 3/4" Brass Push-Fit Elbow Note: (Sharkbite)	37.02	15.23
22 11 16 00-0867	EA	1" x 1" Brass Push-Fit Elbow Note: (Sharkbite)	54.47	18.20
22 11 16 00-0868	EA	1/2" x 3/8" Brass Push-Fit Reducing Elbow Note: (Sharkbite)	31.19	12.62
22 11 16 00-0869	EA	3/4" x 1/2" Brass Push-Fit Reducing Elbow Note: (Sharkbite)	34.80	13.82
22 11 16 00-0870	EA	1" x 3/4" Brass Push-Fit Reducing Elbow Note: (Sharkbite)	70.08	16.71
22 11 16 00-0871	EA	1/4" x 1/4" x 1/4" Brass Push-Fit Tee Note: (Sharkbite)	39.57	16.71
22 11 16 00-0872	EA	3/8" x 3/8" x 3/8" Brass Push-Fit Tee Note: (Sharkbite)	50.76	17.83
22 11 16 00-0873	EA	1/2" x 1/2" x 1/2" Brass Push-Fit Tee Note: (Sharkbite)	45.76	20.05
22 11 16 00-0874	EA	5/8" x 5/8" x 5/8" Brass Push-Fit Tee Note: (Sharkbite)	59.05	21.39
22 11 16 00-0875	EA	3/4" x 3/4" x 3/4" Brass Push-Fit Tee Note: (Sharkbite)	53.49	22.84
22 11 16 00-0876	EA	1" x 1" x 1" Brass Push-Fit Tee Note: (Sharkbite)	73.89	27.29
22 11 16 00-0877	EA	1/2" x 1/2" x 1/4" Brass Push-Fit Reducing Tee Note: (Sharkbite)	52.04	18.94
22 11 16 00-0878	EA	1/2" x 1/2" x 3/8" Brass Push-Fit Reducing Tee Note: (Sharkbite)	52.28	19.31
22 11 16 00-0879	EA	3/4" x 3/4" x 1/2" Brass Push-Fit Reducing Tee Note: (Sharkbite)	51.66	21.92
22 11 16 00-0880	EA	1" x 1" x 3/4" Brass Push-Fit Reducing Tee Note: (Sharkbite)	71.81	25.81
22 11 16 00-0881	EA	1/4" x 1/2" Brass Push-Fit Pipe To FNPT Connector Note: (Sharkbite)	29.81	12.26
22 11 16 00-0882	EA	3/8" x 1/2" Brass Push-Fit Pipe To FNPT Connector Note: (Sharkbite)	29.36	12.62
22 11 16 00-0883	EA	1/2" x 1/2" Brass Push-Fit Pipe To FNPT Connector Note: (Sharkbite)	28.84	13.38
22 11 16 00-0884	EA	3/4" x 3/4" Brass Push-Fit Pipe To FNPT Connector Note: (Sharkbite)	33.05	15.23
22 11 16 00-0885	EA	1" x 1" Brass Push-Fit Pipe To FNPT Connector Note: (Sharkbite)	47.06	18.20
22 11 16 00-0886	EA	1/4" x 1/2" Brass Push-Fit Pipe To MNPT Connector Note: (Sharkbite)	25.77	12.26
22 11 16 00-0887	EA	3/8" x 1/2" Brass Push-Fit Pipe To MNPT Connector Note: (Sharkbite)	29.36	12.62
22 11 16 00-0888	EA	1/2" x 1/2" Brass Push-Fit Pipe To MNPT Connector Note: (Sharkbite)	28.92	13.38
22 11 16 00-0889	EA	3/4" x 3/4" Brass Push-Fit Pipe To MNPT Connector Note: (Sharkbite)	32.68	15.23
22 11 16 00-0890	EA	5/8" x 3/4" Brass Push-Fit Pipe To MNPT Connector Note: (Sharkbite)	35.87	14.74
22 11 16 00-0891	EA	1" x 3/4" Brass Push-Fit Pipe To MNPT Connector Note: (Sharkbite)	43.22	16.71
22 11 16 00-0892	EA	1" x 1" Brass Push-Fit Pipe To MNPT Connector Note: (Sharkbite)	47.81	18.20
22 11 16 00-0893	EA	1/2" Brass Push-Fit Ball Valve Note: (Sharkbite)	42.80	13.38
22 11 16 00-0894	EA	3/4" Brass Push-Fit Ball Valve Note: (Sharkbite)	50.13	15.23
22 11 16 00-0895	EA	1" Brass Push-Fit Ball Valve Note: (Sharkbite)	66.59	18.20
22 11 16 00-0896	EA	1/2" Brass Push-Fit Check Valve Note: (Sharkbite)	46.05	13.38
22 11 16 00-0897	EA	3/4" Brass Push-Fit Check Valve Note: (Sharkbite)	55.60	15.23
22 11 16 00-0898	EA	1" Brass Push-Fit Check Valve Note: (Sharkbite)	95.08	18.20



Plumbing			22
Plumbing Piping			22 10
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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0899			Copper Pipe With Fittings And Hangers Assemblies (22 11 16) Note: Includes hangers and all coupling, elbow, tee and reducer fittings. All fittings are based on 95/5 solder. All hangers are complete assemblies installed in accordance with MSS SP 58 and 69. Excludes insulation. Not for use where detail is available.		
22 11 16 00-0900	LF		1/2" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly..... Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available. For Type K Tubing Instead Of Type L, Add For Type M Tubing Instead Of Type L, Deduct For Silver Solder Instead Of 95/5 Solder, Add For For Brazed Fittings, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Work In Restricted Working Space, Add	23.48 1.75 -1.42 2.92 0.70 -2.05 5.23	3.12
22 11 16 00-0901	LF		3/4" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly..... Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available. For Type K Tubing Instead Of Type L, Add For Type M Tubing Instead Of Type L, Deduct For Silver Solder Instead Of 95/5 Solder, Add For For Brazed Fittings, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Work In Restricted Working Space, Add	27.06 2.06 -1.67 3.33 0.79 -2.34 5.93	4.01
22 11 16 00-0902	LF		1" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly..... Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available. For Type K Tubing Instead Of Type L, Add For Type M Tubing Instead Of Type L, Deduct For Silver Solder Instead Of 95/5 Solder, Add For For Brazed Fittings, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Work In Restricted Working Space, Add	30.14 2.47 -1.96 3.58 0.83 -2.54 6.21	4.79
22 11 16 00-0903	LF		1-1/4" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly..... Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available. For Type K Tubing Instead Of Type L, Add For Type M Tubing Instead Of Type L, Deduct For Silver Solder Instead Of 95/5 Solder, Add For For Brazed Fittings, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Work In Restricted Working Space, Add For Drain-Waste-Vent (DWV) Tubing Instead Of Type L, Deduct	34.63 3.15 -2.44 3.88 0.86 -2.81 6.45 -1.31	5.57
22 11 16 00-0904	LF		1-1/2" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly..... Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available. For Type K Tubing Instead Of Type L, Add For Type M Tubing Instead Of Type L, Deduct For Silver Solder Instead Of 95/5 Solder, Add For For Brazed Fittings, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Work In Restricted Working Space, Add For Drain-Waste-Vent (DWV) Tubing Instead Of Type L, Deduct	38.79 3.68 -2.82 4.23 0.92 -3.09 6.88 -1.59	6.36
22 11 16 00-0905	LF		2" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly..... Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available. For Type K Tubing Instead Of Type L, Add For Type M Tubing Instead Of Type L, Deduct For Silver Solder Instead Of 95/5 Solder, Add For For Brazed Fittings, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Work In Restricted Working Space, Add For Drain-Waste-Vent (DWV) Tubing Instead Of Type L, Deduct	49.47 5.08 -3.83 5.11 1.06 -3.79 7.92 -2.31	7.91
22 11 16 00-0906	LF		2-1/2" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly..... Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available. For Type K Tubing Instead Of Type L, Add For Type M Tubing Instead Of Type L, Deduct For Silver Solder Instead Of 95/5 Solder, Add For For Brazed Fittings, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Work In Restricted Working Space, Add For Drain-Waste-Vent (DWV) Tubing Instead Of Type L, Deduct	62.23 7.05 -5.20 5.94 1.13 -4.53 8.49 -3.39	9.54
22 11 16 00-0907	LF		3" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly..... Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available. For Type K Tubing Instead Of Type L, Add For Type M Tubing Instead Of Type L, Deduct For Silver Solder Instead Of 95/5 Solder, Add For For Brazed Fittings, Add For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct For Work In Restricted Working Space, Add For Drain-Waste-Vent (DWV) Tubing Instead Of Type L, Deduct	77.38 9.37 -6.83 6.94 1.23 -5.40 9.20 -4.67	11.08

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0908	LF		4" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly.....	123.88	14.67
			Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available.		
			For Type K Tubing Instead Of Type L, Add	16.28	
			For Type M Tubing Instead Of Type L, Deduct	-11.69	
			For Silver Solder Instead Of 95/5 Solder, Add	10.16	
			For For Brazed Fittings, Add	1.59	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-8.18	
			For Work In Restricted Working Space, Add	11.90	
			For Drain-Waste-Vent (DWV) Tubing Instead Of Type L, Deduct	-8.42	
22 11 16 00-0909	LF		5" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly.....	236.65	18.26
			Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available.		
			For Type K Tubing Instead Of Type L, Add	34.43	
			For Type M Tubing Instead Of Type L, Deduct	-24.33	
			For Silver Solder Instead Of 95/5 Solder, Add	16.92	
			For For Brazed Fittings, Add	2.04	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-14.38	
			For Work In Restricted Working Space, Add	15.27	
			For Drain-Waste-Vent (DWV) Tubing Instead Of Type L, Deduct	-18.58	
22 11 16 00-0910	LF		6" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly.....	310.55	22.06
			Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available.		
			For Type K Tubing Instead Of Type L, Add	45.47	
			For Type M Tubing Instead Of Type L, Deduct	-32.10	
			For Silver Solder Instead Of 95/5 Solder, Add	21.99	
			For For Brazed Fittings, Add	2.59	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-18.76	
			For Work In Restricted Working Space, Add	19.39	
			For Drain-Waste-Vent (DWV) Tubing Instead Of Type L, Deduct	-24.59	
22 11 16 00-0911	LF		8" Inside Diameter, Type L, Copper Pipe/Tubing With Fittings Assembly.....	742.59	26.37
			Note: Includes all hangers and couplings, elbow, tee, reducer fittings. All hangers are complete assemblies. Not for use where detail is available.		
			For Type K Tubing Instead Of Type L, Add	118.71	
			For Type M Tubing Instead Of Type L, Deduct	-82.68	
			For Silver Solder Instead Of 95/5 Solder, Add	45.16	
			For For Brazed Fittings, Add	3.21	
			For 60/40 Or 50/50 Solder Where Applicable Instead Of 95/5 Solder, Deduct	-41.15	
			For Work In Restricted Working Space, Add	24.10	
			For Drain-Waste-Vent (DWV) Tubing Instead Of Type L, Deduct	-66.23	
22 11 16 00-0912			Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe And Fittings (22 11 16)		
			Note: Socket weld.		
22 11 16 00-0913			Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe And Fittings (22 11 16 00-0912)		
22 11 16 00-0914			Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pipe (22 11 16 00-0913)		
22 11 16 00-0915	LF		1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe	7.05	1.64
			For Work In Restricted Working Space, Add	1.23	
22 11 16 00-0916	LF		3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe	8.35	1.72
			For Work In Restricted Working Space, Add	1.29	
22 11 16 00-0917	LF		1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe	10.56	1.85
			For Work In Restricted Working Space, Add	1.39	
22 11 16 00-0918	LF		1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe	13.26	2.03
			For Work In Restricted Working Space, Add	1.52	
22 11 16 00-0919	LF		1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe	15.51	2.24
			For Work In Restricted Working Space, Add	1.68	
22 11 16 00-0920	LF		2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe	19.99	2.50
			For Work In Restricted Working Space, Add	1.88	
22 11 16 00-0921	LF		2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe	28.12	2.84
			For Work In Restricted Working Space, Add	2.13	
22 11 16 00-0922	LF		3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe	36.46	3.37
			For Work In Restricted Working Space, Add	2.52	
22 11 16 00-0923	LF		4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe	51.49	4.13
			For Work In Restricted Working Space, Add	3.10	
22 11 16 00-0924	LF		6" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe	92.75	5.25
			For Work In Restricted Working Space, Add	3.94	
22 11 16 00-0925	LF		8" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Pressure Pipe	134.66	6.89
			For Work In Restricted Working Space, Add	5.17	
22 11 16 00-0926			Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbows (22 11 16 00-0913)		
22 11 16 00-0927	EA		1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow	24.12	7.80
			For Work In Restricted Working Space, Add	5.85	
22 11 16 00-0928	EA		3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow	31.81	9.85
			For Work In Restricted Working Space, Add	7.39	
22 11 16 00-0929	EA		1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow	42.23	12.31
			For Work In Restricted Working Space, Add	9.26	
22 11 16 00-0930	EA		1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow	60.44	15.39
			For Work In Restricted Working Space, Add	11.57	
22 11 16 00-0931	EA		1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow	67.36	17.03
			For Work In Restricted Working Space, Add	12.80	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-0932	EA		2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow	80.88	17.03
			For Work In Restricted Working Space, Add	14.28	
22 11 16 00-0933	EA		2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow	140.82	21.64
			For Work In Restricted Working Space, Add	16.25	
22 11 16 00-0934	EA		3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow	158.18	25.66
			For Work In Restricted Working Space, Add	19.21	
22 11 16 00-0935	EA		4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow	235.82	31.50
			For Work In Restricted Working Space, Add	23.64	
22 11 16 00-0936	EA		6" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow	296.96	40.01
			For Work In Restricted Working Space, Add	30.04	
22 11 16 00-0937	EA		8" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 90 Degree Elbow	613.03	52.53
			For Work In Restricted Working Space, Add	39.40	
22 11 16 00-0938			Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbows (22 11 16 00-0913)		
22 11 16 00-0939	EA		1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow	26.42	7.80
			For Work In Restricted Working Space, Add	5.85	
22 11 16 00-0940	EA		3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow	34.57	9.85
			For Work In Restricted Working Space, Add	7.39	
22 11 16 00-0941	EA		1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow	46.71	12.31
			For Work In Restricted Working Space, Add	9.26	
22 11 16 00-0942	EA		1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow	66.34	15.39
			For Work In Restricted Working Space, Add	11.57	
22 11 16 00-0943	EA		1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow	74.54	17.03
			For Work In Restricted Working Space, Add	12.80	
22 11 16 00-0944	EA		2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow	83.31	19.09
			For Work In Restricted Working Space, Add	14.28	
22 11 16 00-0945	EA		2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow	142.36	21.64
			For Work In Restricted Working Space, Add	16.25	
22 11 16 00-0946	EA		3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow	157.98	25.66
			For Work In Restricted Working Space, Add	19.21	
22 11 16 00-0947	EA		4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow	207.69	31.50
			For Work In Restricted Working Space, Add	23.64	
22 11 16 00-0948	EA		6" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow	349.70	40.01
			For Work In Restricted Working Space, Add	30.04	
22 11 16 00-0949	EA		8" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 45 Degree Elbow	650.40	52.53
			For Work In Restricted Working Space, Add	39.40	
22 11 16 00-0950			Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tees (22 11 16 00-0913)		
22 11 16 00-0951	EA		1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee	37.64	11.70
			For Work In Restricted Working Space, Add	8.77	
22 11 16 00-0952	EA		3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee	50.34	14.77
			For Work In Restricted Working Space, Add	11.08	
22 11 16 00-0953	EA		1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee	62.84	18.57
			For Work In Restricted Working Space, Add	13.91	
22 11 16 00-0954	EA		1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee	92.61	23.19
			For Work In Restricted Working Space, Add	17.36	
22 11 16 00-0955	EA		1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee	103.83	25.66
			For Work In Restricted Working Space, Add	19.21	
22 11 16 00-0956	EA		2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee	130.78	28.53
			For Work In Restricted Working Space, Add	21.42	
22 11 16 00-0957	EA		2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee	178.79	32.53
			For Work In Restricted Working Space, Add	24.38	
22 11 16 00-0958	EA		3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee	202.15	38.37
			For Work In Restricted Working Space, Add	28.61	
22 11 16 00-0959	EA		4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee	243.56	47.30
			For Work In Restricted Working Space, Add	35.46	
22 11 16 00-0960	EA		6" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee	395.16	60.13
			For Work In Restricted Working Space, Add	45.06	
22 11 16 00-0961	EA		8" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Tee	898.25	78.80
			For Work In Restricted Working Space, Add	59.10	
22 11 16 00-0962			Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Crosses (22 11 16 00-0913)		
22 11 16 00-0963	EA		1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross	46.22	15.60
			For Work In Restricted Working Space, Add	11.70	
22 11 16 00-0964	EA		3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross	60.79	19.70
			For Work In Restricted Working Space, Add	14.78	
22 11 16 00-0965	EA		1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross	75.96	24.73
			For Work In Restricted Working Space, Add	18.53	
22 11 16 00-0966	EA		1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross	107.08	30.88
			For Work In Restricted Working Space, Add	23.15	
22 11 16 00-0967	EA		1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross	119.65	34.17
			For Work In Restricted Working Space, Add	25.61	
22 11 16 00-0968	EA		2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross	146.35	38.07
			For Work In Restricted Working Space, Add	28.56	
22 11 16 00-0969	EA		2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross	192.35	43.30
			For Work In Restricted Working Space, Add	32.51	
22 11 16 00-0970	EA		3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross	219.45	51.20
			For Work In Restricted Working Space, Add	38.42	
22 11 16 00-0971	EA		4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross	265.57	63.00
			For Work In Restricted Working Space, Add	47.28	

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22 11 16 00-0972	EA	6" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross <i>For Work In Restricted Working Space, Add</i>	411.26 60.08	80.13
22 11 16 00-0973	EA	8" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cross <i>For Work In Restricted Working Space, Add</i>	866.68 78.80	105.07
22 11 16 00-0974 Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld Reducing Inserts (22 11 16 00-0913)				
22 11 16 00-0975	EA	3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Insert <i>For Work In Restricted Working Space, Add</i>	20.82 5.42	7.18
22 11 16 00-0976	EA	1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Insert <i>For Work In Restricted Working Space, Add</i>	29.69 7.29	9.74
22 11 16 00-0977	EA	1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Insert <i>For Work In Restricted Working Space, Add</i>	56.42 9.54	12.73
22 11 16 00-0978	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Insert <i>For Work In Restricted Working Space, Add</i>	64.24 10.56	14.06
22 11 16 00-0979	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Insert <i>For Work In Restricted Working Space, Add</i>	77.44 11.79	15.70
22 11 16 00-0980	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Insert <i>For Work In Restricted Working Space, Add</i>	82.88 13.42	17.86
22 11 16 00-0981	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Insert <i>For Work In Restricted Working Space, Add</i>	101.68 15.85	21.14
22 11 16 00-0982	EA	4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Insert <i>For Work In Restricted Working Space, Add</i>	143.31 19.52	25.96
22 11 16 00-0983	EA	6" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Insert <i>For Work In Restricted Working Space, Add</i>	249.30 24.78	33.04
22 11 16 00-0984	EA	8" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Reducing Insert <i>For Work In Restricted Working Space, Add</i>	609.90 32.51	43.30
22 11 16 00-0985 Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Or Male Thread Reducing Inserts (22 11 16 00-0913)				
22 11 16 00-0986	EA	1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Or Male Threaded Reducing Insert <i>For Work In Restricted Working Space, Add</i>	30.90 3.85	5.13
22 11 16 00-0987	EA	3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Or Male Threaded Reducing Insert <i>For Work In Restricted Working Space, Add</i>	37.54 5.42	7.18
22 11 16 00-0988	EA	1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Or Male Threaded Reducing Insert <i>For Work In Restricted Working Space, Add</i>	45.20 7.29	9.74
22 11 16 00-0989	EA	1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Or Male Threaded Reducing Insert <i>For Work In Restricted Working Space, Add</i>	55.08 9.54	12.73
22 11 16 00-0990	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Or Male Threaded Reducing Insert <i>For Work In Restricted Working Space, Add</i>	66.22 10.56	14.06
22 11 16 00-0991	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Or Male Threaded Reducing Insert <i>For Work In Restricted Working Space, Add</i>	87.31 11.79	15.70
22 11 16 00-0992	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Or Male Threaded Reducing Insert <i>For Work In Restricted Working Space, Add</i>	147.35 13.42	17.86
22 11 16 00-0993	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Or Male Threaded Reducing Insert <i>For Work In Restricted Working Space, Add</i>	320.86 15.85	21.14
22 11 16 00-0994	EA	4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Or Male Threaded Reducing Insert <i>For Work In Restricted Working Space, Add</i>	487.46 19.52	25.96
22 11 16 00-0995 Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Male Thread Male Adapters (22 11 16 00-0913)				
22 11 16 00-0996	EA	1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Male Thread Male Adapters <i>For Work In Restricted Working Space, Add</i>	19.75 3.85	5.13
22 11 16 00-0997	EA	3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Male Thread Male Adapters <i>For Work In Restricted Working Space, Add</i>	27.42 5.42	7.18
22 11 16 00-0998	EA	1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Male Thread Male Adapters <i>For Work In Restricted Working Space, Add</i>	40.08 7.29	9.74
22 11 16 00-0999	EA	1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Male Thread Male Adapters <i>For Work In Restricted Working Space, Add</i>	55.08 9.54	12.73
22 11 16 00-1000	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Male Thread Male Adapters <i>For Work In Restricted Working Space, Add</i>	66.67 10.56	14.06
22 11 16 00-1001	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Male Thread Male Adapters <i>For Work In Restricted Working Space, Add</i>	81.86 11.79	15.70
22 11 16 00-1002	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Male Thread Male Adapters <i>For Work In Restricted Working Space, Add</i>	125.30 13.42	17.86
22 11 16 00-1003	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Male Thread Male Adapters <i>For Work In Restricted Working Space, Add</i>	150.25 15.85	21.14
22 11 16 00-1004	EA	4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Male Thread Male Adapters <i>For Work In Restricted Working Space, Add</i>	229.76 19.52	25.96
22 11 16 00-1005 Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Thread Female Adapters (22 11 16 00-0913)				



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22 11 16 00-1006	EA	1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Thread Female Adapters	22.38	5.13
		<i>For Work In Restricted Working Space, Add</i>	3.85	
22 11 16 00-1007	EA	3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Thread Female Adapters	28.25	7.18
		<i>For Work In Restricted Working Space, Add</i>	5.42	
22 11 16 00-1008	EA	1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Thread Female Adapters	40.29	9.74
		<i>For Work In Restricted Working Space, Add</i>	7.29	
22 11 16 00-1009	EA	1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Thread Female Adapters	55.85	12.73
		<i>For Work In Restricted Working Space, Add</i>	9.54	
22 11 16 00-1010	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Thread Female Adapters	63.14	14.06
		<i>For Work In Restricted Working Space, Add</i>	10.56	
22 11 16 00-1011	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Thread Female Adapters	78.97	15.70
		<i>For Work In Restricted Working Space, Add</i>	11.79	
22 11 16 00-1012	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Thread Female Adapters	126.97	17.86
		<i>For Work In Restricted Working Space, Add</i>	13.42	
22 11 16 00-1013	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Thread Female Adapters	179.35	21.14
		<i>For Work In Restricted Working Space, Add</i>	15.85	
22 11 16 00-1014	EA	4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Socket Weld x Female Thread Female Adapters	279.23	25.96
		<i>For Work In Restricted Working Space, Add</i>	19.52	
22 11 16 00-1015 Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings (22 11 16 00-0913)				
22 11 16 00-1016	EA	1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings	17.60	4.72
		<i>For Work In Restricted Working Space, Add</i>	3.51	
22 11 16 00-1017	EA	3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings	24.74	6.57
		<i>For Work In Restricted Working Space, Add</i>	4.92	
22 11 16 00-1018	EA	1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings	33.28	8.83
		<i>For Work In Restricted Working Space, Add</i>	6.62	
22 11 16 00-1019	EA	1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings	45.66	11.60
		<i>For Work In Restricted Working Space, Add</i>	8.68	
22 11 16 00-1020	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings	53.10	12.83
		<i>For Work In Restricted Working Space, Add</i>	9.60	
22 11 16 00-1021	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings	60.18	14.26
		<i>For Work In Restricted Working Space, Add</i>	10.71	
22 11 16 00-1022	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings	99.33	16.21
		<i>For Work In Restricted Working Space, Add</i>	12.19	
22 11 16 00-1023	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings	107.31	19.19
		<i>For Work In Restricted Working Space, Add</i>	14.41	
22 11 16 00-1024	EA	4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings	136.78	23.60
		<i>For Work In Restricted Working Space, Add</i>	17.73	
22 11 16 00-1025	EA	6" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings	228.35	30.06
		<i>For Work In Restricted Working Space, Add</i>	22.53	
22 11 16 00-1026	EA	8" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Couplings	409.01	39.40
		<i>For Work In Restricted Working Space, Add</i>	29.55	
22 11 16 00-1027 Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions (22 11 16 00-0913)				
22 11 16 00-1028	EA	1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions	39.18	5.64
		<i>For Work In Restricted Working Space, Add</i>	4.22	
22 11 16 00-1029	EA	3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions	46.04	7.90
		<i>For Work In Restricted Working Space, Add</i>	5.91	
22 11 16 00-1030	EA	1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions	53.64	10.57
		<i>For Work In Restricted Working Space, Add</i>	7.94	
22 11 16 00-1031	EA	1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions	98.58	13.86
		<i>For Work In Restricted Working Space, Add</i>	10.40	
22 11 16 00-1032	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions	103.42	15.39
		<i>For Work In Restricted Working Space, Add</i>	11.51	
22 11 16 00-1033	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions	150.82	17.13
		<i>For Work In Restricted Working Space, Add</i>	12.87	
22 11 16 00-1034	EA	2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions	272.54	19.50
		<i>For Work In Restricted Working Space, Add</i>	14.62	
22 11 16 00-1035	EA	3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions	395.87	23.09
		<i>For Work In Restricted Working Space, Add</i>	17.30	
22 11 16 00-1036	EA	4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions	645.84	28.32
		<i>For Work In Restricted Working Space, Add</i>	21.27	
22 11 16 00-1037	EA	6" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions	866.58	36.01
		<i>For Work In Restricted Working Space, Add</i>	27.03	
22 11 16 00-1038	EA	8" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Unions	1,066.71	47.30
		<i>For Work In Restricted Working Space, Add</i>	35.46	
22 11 16 00-1039 Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Caps (22 11 16 00-0913)				
22 11 16 00-1040	EA	1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap	16.62	4.83
		<i>For Work In Restricted Working Space, Add</i>	2.20	
22 11 16 00-1041	EA	3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap	22.43	6.06
		<i>For Work In Restricted Working Space, Add</i>	2.77	
22 11 16 00-1042	EA	1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap	34.92	7.60
		<i>For Work In Restricted Working Space, Add</i>	3.48	
22 11 16 00-1043	EA	1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap	40.05	5.74
		<i>For Work In Restricted Working Space, Add</i>	4.34	
22 11 16 00-1044	EA	1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap	42.09	6.36
		<i>For Work In Restricted Working Space, Add</i>	4.80	
22 11 16 00-1045	EA	2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap	59.86	7.18
		<i>For Work In Restricted Working Space, Add</i>	5.36	

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22 11 16 00-1046 EA 2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap <i>For Work In Restricted Working Space, Add</i>	95.93 6.09	8.10
22 11 16 00-1047 EA 3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap <i>For Work In Restricted Working Space, Add</i>	101.37 7.20	9.64
22 11 16 00-1048 EA 4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap <i>For Work In Restricted Working Space, Add</i>	160.03 8.87	11.80
22 11 16 00-1049 EA 6" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap <i>For Work In Restricted Working Space, Add</i>	362.23 11.27	14.98
22 11 16 00-1050 EA 8" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) Cap <i>For Work In Restricted Working Space, Add</i>	466.15 14.78	19.70
22 11 16 00-1051 Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges (22 11 16 00-0913)		
22 11 16 00-1052 EA 1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i>	31.77 2.80	3.70
22 11 16 00-1053 EA 3/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i>	37.17 3.94	5.23
22 11 16 00-1054 EA 1" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i>	44.43 5.29	7.08
22 11 16 00-1055 EA 1-1/4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i>	50.75 6.96	9.23
22 11 16 00-1056 EA 1-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i>	53.86 7.70	10.26
22 11 16 00-1057 EA 2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i>	66.03 8.56	11.39
22 11 16 00-1058 EA 2-1/2" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i>	91.05 9.76	13.03
22 11 16 00-1059 EA 3" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i>	102.20 11.51	15.39
22 11 16 00-1060 EA 4" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i>	128.18 14.19	18.88
22 11 16 00-1061 EA 6" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i>	187.28 18.04	24.01
22 11 16 00-1062 EA 8" Schedule 80 Chlorinated Polyvinyl Chloride (CPVC) 150 LB Flanges <i>For Work In Restricted Working Space, Add</i>	365.66 23.64	31.50
22 11 16 00-1063 Red Brass Pipe And Fittings (22 11 16) Note: ASTM B43 And B251 (Pipe), ASME B16.15.		
22 11 16 00-1064 Schedule 40 Red Brass Pipe (22 11 16 00-1063)		
22 11 16 00-1065 LF 1/2" Schedule 40 Red Brass Pipe 22 11 16 00-1066 LF 3/4" Schedule 40 Red Brass Pipe 22 11 16 00-1067 LF 1" Schedule 40 Red Brass Pipe 22 11 16 00-1068 LF 1-1/4" Schedule 40 Red Brass Pipe 22 11 16 00-1069 LF 1-1/2" Schedule 40 Red Brass Pipe 22 11 16 00-1070 LF 2" Schedule 40 Red Brass Pipe 22 11 16 00-1071 LF 2-1/2" Schedule 40 Red Brass Pipe 22 11 16 00-1072 LF 3" Schedule 40 Red Brass Pipe 22 11 16 00-1073 LF 4" Schedule 40 Red Brass Pipe	28.83 38.23 52.23 76.64 88.28 113.15 164.61 232.65 333.54	2.16 2.16 2.16 2.36 2.57 3.07 3.49 3.70 3.70
22 11 16 00-1074 125 LB Cast Bronze, Screwed, 90 Degree Elbows (22 11 16 00-1063)		
22 11 16 00-1075 EA 1/2" 125 LB Cast Bronze, Screwed, 90 Degree Elbow 22 11 16 00-1076 EA 3/4" 125 LB Cast Bronze, Screwed, 90 Degree Elbow 22 11 16 00-1077 EA 1" 125 LB Cast Bronze, Screwed, 90 Degree Elbow 22 11 16 00-1078 EA 1-1/4" 125 LB Cast Bronze, Screwed, 90 Degree Elbow 22 11 16 00-1079 EA 1-1/2" 125 LB Cast Bronze, Screwed, 90 Degree Elbow 22 11 16 00-1080 EA 2" 125 LB Cast Bronze, Screwed, 90 Degree Elbow 22 11 16 00-1081 EA 2-1/2" 125 LB Cast Bronze, Screwed, 90 Degree Elbow 22 11 16 00-1082 EA 3" 125 LB Cast Bronze, Screwed, 90 Degree Elbow 22 11 16 00-1083 EA 4" 125 LB Cast Bronze, Screwed, 90 Degree Elbow	60.08 68.19 85.93 103.08 115.69 144.80 247.91 345.17 614.12	25.54 28.11 33.24 35.70 38.27 40.84 51.10 61.26 81.67
22 11 16 00-1084 125 LB Cast Bronze, Screwed, 90 Degree Reducing Elbows (22 11 16 00-1063)		
22 11 16 00-1085 EA 1/2" 125 LB Cast Bronze, Screwed, 90 Degree Reducing Elbow 22 11 16 00-1086 EA 3/4" 125 LB Cast Bronze, Screwed, 90 Degree Reducing Elbow 22 11 16 00-1087 EA 1" 125 LB Cast Bronze, Screwed, 90 Degree Reducing Elbow 22 11 16 00-1088 EA 1-1/4" 125 LB Cast Bronze, Screwed, 90 Degree Reducing Elbow 22 11 16 00-1089 EA 1-1/2" 125 LB Cast Bronze, Screwed, 90 Degree Reducing Elbow 22 11 16 00-1090 EA 2" 125 LB Cast Bronze, Screwed, 90 Degree Reducing Elbow 22 11 16 00-1091 EA 2-1/2" 125 LB Cast Bronze, Screwed, 90 Degree Reducing Elbow 22 11 16 00-1092 EA 3" 125 LB Cast Bronze, Screwed, 90 Degree Reducing Elbow 22 11 16 00-1093 EA 4" 125 LB Cast Bronze, Screwed, 90 Degree Reducing Elbow	63.09 72.56 95.08 115.07 132.20 180.86 277.94 437.50 875.40	25.54 28.11 33.24 35.70 38.27 40.84 51.10 61.26 81.67
22 11 16 00-1094 125 LB Cast Bronze, Screwed, 45 Degree Elbows (22 11 16 00-1063)		
22 11 16 00-1095 EA 1/2" 125 LB Cast Bronze, Screwed, 45 Degree Elbow 22 11 16 00-1096 EA 3/4" 125 LB Cast Bronze, Screwed, 45 Degree Elbow 22 11 16 00-1097 EA 1" 125 LB Cast Bronze, Screwed, 45 Degree Elbow 22 11 16 00-1098 EA 1-1/4" 125 LB Cast Bronze, Screwed, 45 Degree Elbow	61.61 71.18 91.95 112.09	25.54 28.11 33.24 35.70



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-1099	EA	1-1/2" 125 LB Cast Bronze, Screwed, 45 Degree Elbow	127.69	38.27
22 11 16 00-1100	EA	2" 125 LB Cast Bronze, Screwed, 45 Degree Elbow	164.33	40.84
22 11 16 00-1101	EA	2-1/2" 125 LB Cast Bronze, Screwed, 45 Degree Elbow	259.88	51.10
22 11 16 00-1102	EA	3" 125 LB Cast Bronze, Screwed, 45 Degree Elbow	365.67	61.26
22 11 16 00-1103	EA	4" 125 LB Cast Bronze, Screwed, 45 Degree Elbow	814.69	81.67
22 11 16 00-1104		125 LB Cast Bronze, Screwed, Tees (22 11 16 00-1063)		
22 11 16 00-1105	EA	1/2" 125 LB Cast Bronze, Screwed, Tee	87.14	38.27
22 11 16 00-1106	EA	3/4" 125 LB Cast Bronze, Screwed, Tee	98.76	41.86
22 11 16 00-1107	EA	1" 125 LB Cast Bronze, Screwed, Tee	126.13	49.56
22 11 16 00-1108	EA	1-1/4" 125 LB Cast Bronze, Screwed, Tee	153.83	53.66
22 11 16 00-1109	EA	1-1/2" 125 LB Cast Bronze, Screwed, Tee	166.98	57.15
22 11 16 00-1110	EA	2" 125 LB Cast Bronze, Screwed, Tee	209.69	61.26
22 11 16 00-1111	EA	2-1/2" 125 LB Cast Bronze, Screwed, Tee	351.52	76.64
22 11 16 00-1112	EA	3" 125 LB Cast Bronze, Screwed, Tee	487.02	91.93
22 11 16 00-1113	EA	4" 125 LB Cast Bronze, Screwed, Tee	996.30	122.51
22 11 16 00-1114		125 LB Cast Bronze, Screwed, Reducing Tees (22 11 16 00-1063)		
22 11 16 00-1115	EA	1/2" 125 LB Cast Bronze, Screwed, Reducing Tee	91.63	38.27
22 11 16 00-1116	EA	3/4" 125 LB Cast Bronze, Screwed, Reducing Tee	101.79	41.86
22 11 16 00-1117	EA	1" 125 LB Cast Bronze, Screwed, Reducing Tee	138.15	49.56
22 11 16 00-1118	EA	1-1/4" 125 LB Cast Bronze, Screwed, Reducing Tee	162.84	53.66
22 11 16 00-1119	EA	1-1/2" 125 LB Cast Bronze, Screwed, Reducing Tee	191.02	57.15
22 11 16 00-1120	EA	2" 125 LB Cast Bronze, Screwed, Reducing Tee	247.25	61.26
22 11 16 00-1121	EA	2-1/2" 125 LB Cast Bronze, Screwed, Reducing Tee	424.57	76.64
22 11 16 00-1122	EA	3" 125 LB Cast Bronze, Screwed, Reducing Tee	804.46	91.93
22 11 16 00-1123	EA	4" 125 LB Cast Bronze, Screwed, Reducing Tee	1,246.69	122.51
22 11 16 00-1124		125 LB Cast Bronze, Screwed, Crosses (22 11 16 00-1063)		
22 11 16 00-1125	EA	1/2" 125 LB Cast Bronze, Screwed, Cross	123.18	51.10
22 11 16 00-1126	EA	3/4" 125 LB Cast Bronze, Screwed, Cross	142.40	56.13
22 11 16 00-1127	EA	1" 125 LB Cast Bronze, Screwed, Cross	179.36	66.38
22 11 16 00-1128	EA	1-1/4" 125 LB Cast Bronze, Screwed, Cross	221.82	71.51
22 11 16 00-1129	EA	1-1/2" 125 LB Cast Bronze, Screwed, Cross	261.78	76.64
22 11 16 00-1130	EA	2" 125 LB Cast Bronze, Screwed, Cross	380.50	81.67
22 11 16 00-1131	EA	2-1/2" 125 LB Cast Bronze, Screwed, Cross	614.98	102.10
22 11 16 00-1132	EA	3" 125 LB Cast Bronze, Screwed, Cross	847.58	122.51
22 11 16 00-1133	EA	4" 125 LB Cast Bronze, Screwed, Cross	1,558.99	163.45
22 11 16 00-1134		125 LB Cast Bronze, Screwed, Caps (22 11 16 00-1063)		
22 11 16 00-1135	EA	1/2" 125 LB Cast Bronze, Screwed, Cap	28.98	15.19
22 11 16 00-1136	EA	3/4" 125 LB Cast Bronze, Screwed, Cap	32.81	16.73
22 11 16 00-1137	EA	1" 125 LB Cast Bronze, Screwed, Cap	43.51	19.70
22 11 16 00-1138	EA	1-1/4" 125 LB Cast Bronze, Screwed, Cap	56.20	21.24
22 11 16 00-1139	EA	1-1/2" 125 LB Cast Bronze, Screwed, Cap	66.05	22.77
22 11 16 00-1140	EA	2" 125 LB Cast Bronze, Screwed, Cap	90.86	24.31
22 11 16 00-1141	EA	2-1/2" 125 LB Cast Bronze, Screwed, Cap	145.10	30.37
22 11 16 00-1142	EA	3" 125 LB Cast Bronze, Screwed, Cap	208.43	36.43
22 11 16 00-1143	EA	4" 125 LB Cast Bronze, Screwed, Cap	365.84	48.53
22 11 16 00-1144		125 LB Cast Bronze, Screwed, Couplings (22 11 16 00-1063)		
22 11 16 00-1145	EA	1/2" 125 LB Cast Bronze, Screwed, Coupling	58.60	25.54
22 11 16 00-1146	EA	3/4" 125 LB Cast Bronze, Screwed, Coupling	66.71	28.11
22 11 16 00-1147	EA	1" 125 LB Cast Bronze, Screwed, Coupling	84.42	33.24
22 11 16 00-1148	EA	1-1/4" 125 LB Cast Bronze, Screwed, Coupling	101.55	35.70
22 11 16 00-1149	EA	1-1/2" 125 LB Cast Bronze, Screwed, Coupling	115.69	38.27
22 11 16 00-1150	EA	2" 125 LB Cast Bronze, Screwed, Coupling	146.31	40.84
22 11 16 00-1151	EA	2-1/2" 125 LB Cast Bronze, Screwed, Coupling	207.31	51.10
22 11 16 00-1152	EA	3" 125 LB Cast Bronze, Screwed, Coupling	268.33	61.26
22 11 16 00-1153	EA	4" 125 LB Cast Bronze, Screwed, Coupling	463.87	81.67
22 11 16 00-1154		125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Pipe Sizes, Bell Reducers (22 11 16 00-1063)		
22 11 16 00-1155	EA	1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Pipe Sizes, Bell Reducer	51.87	20.42
22 11 16 00-1156	EA	3/4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Pipe Sizes, Bell Reducer	59.27	22.98
22 11 16 00-1157	EA	1" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Pipe Sizes, Bell Reducer	80.47	30.68
22 11 16 00-1158	EA	1-1/4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Pipe Sizes, Bell Reducer	96.34	33.24
22 11 16 00-1159	EA	1-1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Pipe Sizes, Bell Reducer	109.24	35.70
22 11 16 00-1160	EA	2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Pipe Sizes, Bell Reducer	132.44	38.27
22 11 16 00-1161	EA	2-1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Pipe Sizes, Bell Reducer	193.49	48.53
22 11 16 00-1162	EA	3" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Pipe Sizes, Bell Reducer	234.89	56.13
22 11 16 00-1163	EA	4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Pipe Sizes, Bell Reducer	410.16	74.08



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-1164		125 LB Cast Bronze, Screwed, Reducing 2 Or More Pipe Sizes, Bell Reducers (22 11 16 00-1063)		
22 11 16 00-1165	EA	3/4" 125 LB Cast Bronze, Screwed, Reducing 2 Or More Pipe Sizes, Bell Reducer	53.11	20.42
22 11 16 00-1166	EA	1" 125 LB Cast Bronze, Screwed, Reducing 2 Or More Pipe Sizes, Bell Reducer	96.53	28.11
22 11 16 00-1167	EA	1-1/4" 125 LB Cast Bronze, Screwed, Reducing 2 Or More Pipe Sizes, Bell Reducer	127.06	30.68
22 11 16 00-1168	EA	1-1/2" 125 LB Cast Bronze, Screwed, Reducing 2 Or More Pipe Sizes, Bell Reducer	148.93	33.24
22 11 16 00-1169	EA	2" 125 LB Cast Bronze, Screwed, Reducing 2 Or More Pipe Sizes, Bell Reducer	199.08	38.27
22 11 16 00-1170	EA	2-1/2" 125 LB Cast Bronze, Screwed, Reducing 2 Or More Pipe Sizes, Bell Reducer	307.11	48.53
22 11 16 00-1171	EA	3" 125 LB Cast Bronze, Screwed, Reducing 2 Or More Pipe Sizes, Bell Reducer	371.56	51.10
22 11 16 00-1172	EA	4" 125 LB Cast Bronze, Screwed, Reducing 2 Or More Pipe Sizes, Bell Reducer	421.27	66.38
22 11 16 00-1173		125 LB Cast Bronze, FIP Threaded, Unions (22 11 16 00-1063)		
22 11 16 00-1174	EA	1/2" 125 LB Cast Bronze, FIP Threaded, Union	64.89	20.42
		For 150 LB, Add	9.62	
22 11 16 00-1175	EA	3/4" 125 LB Cast Bronze, FIP Threaded, Union	77.98	22.47
		For 150 LB, Add	13.22	
22 11 16 00-1176	EA	1" 125 LB Cast Bronze, FIP Threaded, Union	96.68	26.57
		For 150 LB, Add	17.43	
22 11 16 00-1177	EA	1-1/4" 125 LB Cast Bronze, FIP Threaded, Union	120.28	28.63
		For 150 LB, Add	25.23	
22 11 16 00-1178	EA	1-1/2" 125 LB Cast Bronze, FIP Threaded, Union	136.43	30.68
		For 150 LB, Add	30.06	
22 11 16 00-1179	EA	2" 125 LB Cast Bronze, FIP Threaded, Union	161.25	34.68
		For 150 LB, Add	36.72	
22 11 16 00-1180	EA	2-1/2" 125 LB Cast Bronze, FIP Threaded, Union	279.09	51.30
		For 150 LB, Add	70.60	
		For 250 LB, Add	150.02	
		For 300 LB, Add	211.79	
22 11 16 00-1181	EA	3" 125 LB Cast Bronze, FIP Threaded, Union	407.62	67.46
		For 150 LB, Add	109.08	
		For 250 LB, Add	231.79	
		For 300 LB, Add	327.23	
22 11 16 00-1182	EA	4" 125 LB Cast Bronze, FIP Threaded, Union	751.00	74.70
		For 150 LB, Add	240.60	
		For 250 LB, Add	511.28	
		For 300 LB, Add	721.80	
22 11 16 00-1183		125 LB Cast Bronze, Screwed, Companion Flanges (22 11 16 00-1063)		
		Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.		
22 11 16 00-1184	EA	1/2" 125 LB Cast Bronze, Screwed, Companion Flange	184.26	25.54
22 11 16 00-1185	EA	3/4" 125 LB Cast Bronze, Screwed, Companion Flange	200.61	30.68
22 11 16 00-1186	EA	1" 125 LB Cast Bronze, Screwed, Companion Flange	229.91	35.70
22 11 16 00-1187	EA	1-1/4" 125 LB Cast Bronze, Screwed, Companion Flange	262.35	38.27
22 11 16 00-1188	EA	1-1/2" 125 LB Cast Bronze, Screwed, Companion Flange	311.13	40.84
22 11 16 00-1189	EA	2" 125 LB Cast Bronze, Screwed, Companion Flange	392.78	43.40
22 11 16 00-1190	EA	2-1/2" 125 LB Cast Bronze, Screwed, Companion Flange	495.48	51.10
22 11 16 00-1191	EA	3" 125 LB Cast Bronze, Screwed, Companion Flange	613.89	63.82
22 11 16 00-1192	EA	4" 125 LB Cast Bronze, Screwed, Companion Flange	875.27	89.37
22 11 16 00-1193		125 LB Cast Bronze, Screwed, Square Head Plugs (22 11 16 00-1063)		
22 11 16 00-1194	EA	1/2" 125 LB Cast Bronze, Screwed, Square Head Plug	17.85	
22 11 16 00-1195	EA	3/4" 125 LB Cast Bronze, Screwed, Square Head Plug	18.44	
22 11 16 00-1196	EA	1" 125 LB Cast Bronze, Screwed, Square Head Plug	28.43	
22 11 16 00-1197	EA	1-1/4" 125 LB Cast Bronze, Screwed, Square Head Plug	32.94	
22 11 16 00-1198	EA	1-1/2" 125 LB Cast Bronze, Screwed, Square Head Plug	37.60	
22 11 16 00-1199	EA	2" 125 LB Cast Bronze, Screwed, Square Head Plug	56.62	
22 11 16 00-1200	EA	2-1/2" 125 LB Cast Bronze, Screwed, Square Head Plug	85.97	
22 11 16 00-1201	EA	3" 125 LB Cast Bronze, Screwed, Square Head Plug	126.24	
22 11 16 00-1202	EA	4" 125 LB Cast Bronze, Screwed, Square Head Plug	214.73	
22 11 16 00-1203		125 LB Cast Bronze, Screwed, Counter Sunk Plugs (22 11 16 00-1063)		
22 11 16 00-1204	EA	1/2" 125 LB Cast Bronze, Screwed, Counter Sunk Plug	7.53	
22 11 16 00-1205	EA	3/4" 125 LB Cast Bronze, Screwed, Counter Sunk Plug	9.01	
22 11 16 00-1206	EA	1" 125 LB Cast Bronze, Screwed, Counter Sunk Plug	13.55	
22 11 16 00-1207	EA	1-1/4" 125 LB Cast Bronze, Screwed, Counter Sunk Plug	21.05	
22 11 16 00-1208	EA	1-1/2" 125 LB Cast Bronze, Screwed, Counter Sunk Plug	33.33	
22 11 16 00-1209	EA	2" 125 LB Cast Bronze, Screwed, Counter Sunk Plug	51.66	
22 11 16 00-1210	EA	2-1/2" 125 LB Cast Bronze, Screwed, Counter Sunk Plug	100.55	
22 11 16 00-1211	EA	3" 125 LB Cast Bronze, Screwed, Counter Sunk Plug	162.84	
22 11 16 00-1212	EA	4" 125 LB Cast Bronze, Screwed, Counter Sunk Plug	397.15	
22 11 16 00-1213		125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushings (22 11 16 00-1063)		
22 11 16 00-1214	EA	1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	6.00	
22 11 16 00-1215	EA	3/4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	7.53	
22 11 16 00-1216	EA	1" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	10.54	



		Plumbing	22
		Plumbing Piping	22 10
		Facility Water Distribution	22 11
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MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-1217	EA	1-1/4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	18.04	
22 11 16 00-1218	EA	1-1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	25.57	
22 11 16 00-1219	EA	2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	31.59	
22 11 16 00-1220	EA	2-1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	39.64	
22 11 16 00-1221	EA	3" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	117.23	
22 11 16 00-1222	EA	4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Hex Bushing	256.77	
22 11 16 00-1223		125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushings (22 11 16 00-1063)		
22 11 16 00-1224	EA	1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	10.54	
22 11 16 00-1225	EA	3/4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	15.01	
22 11 16 00-1226	EA	1" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	26.16	
22 11 16 00-1227	EA	1-1/4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	35.53	
22 11 16 00-1228	EA	1-1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	44.42	
22 11 16 00-1229	EA	2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	55.96	
22 11 16 00-1230	EA	2-1/2" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	114.26	
22 11 16 00-1231	EA	3" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	180.78	
22 11 16 00-1232	EA	4" 125 LB Cast Bronze, Screwed, Reducing 1 Or 2 Sizes, Flush Bushing	379.90	
22 11 16 00-1233		1/2" Red Brass Pipe Nipples (22 11 16 00-1063) Note: Threaded both ends.		
22 11 16 00-1234	EA	1/2" x Close, Red Brass Pipe Nipple	10.08	
22 11 16 00-1235	EA	1/2" x 1-1/2" Long, Red Brass Pipe Nipple	11.81	
22 11 16 00-1236	EA	1/2" x 2" Long, Red Brass Pipe Nipple	14.46	
22 11 16 00-1237	EA	1/2" x 2-1/2" Long, Red Brass Pipe Nipple	17.18	
22 11 16 00-1238	EA	1/2" x 3" Long, Red Brass Pipe Nipple	19.91	
22 11 16 00-1239	EA	1/2" x 3-1/2" Long, Red Brass Pipe Nipple	23.49	
22 11 16 00-1240	EA	1/2" x 4" Long, Red Brass Pipe Nipple	26.34	
22 11 16 00-1241	EA	1/2" x 4-1/2" Long, Red Brass Pipe Nipple	28.93	
22 11 16 00-1242	EA	1/2" x 5" Long, Red Brass Pipe Nipple	31.65	
22 11 16 00-1243	EA	1/2" x 5-1/2" Long, Red Brass Pipe Nipple	34.64	
22 11 16 00-1244	EA	1/2" x 6" Long, Red Brass Pipe Nipple	37.29	
22 11 16 00-1245		3/4" Red Brass Pipe Nipples (22 11 16 00-1063) Note: Threaded both ends.		
22 11 16 00-1246	EA	3/4" x Close, Red Brass Pipe Nipple	14.73	
22 11 16 00-1247	EA	3/4" x 1-1/2" Long, Red Brass Pipe Nipple	15.53	
22 11 16 00-1248	EA	3/4" x 2" Long, Red Brass Pipe Nipple	18.78	
22 11 16 00-1249	EA	3/4" x 2-1/2" Long, Red Brass Pipe Nipple	22.10	
22 11 16 00-1250	EA	3/4" x 3" Long, Red Brass Pipe Nipple	25.08	
22 11 16 00-1251	EA	3/4" x 3-1/2" Long, Red Brass Pipe Nipple	28.80	
22 11 16 00-1252	EA	3/4" x 4" Long, Red Brass Pipe Nipple	32.38	
22 11 16 00-1253	EA	3/4" x 4-1/2" Long, Red Brass Pipe Nipple	36.36	
22 11 16 00-1254	EA	3/4" x 5" Long, Red Brass Pipe Nipple	39.68	
22 11 16 00-1255	EA	3/4" x 5-1/2" Long, Red Brass Pipe Nipple	45.72	
22 11 16 00-1256	EA	3/4" x 6" Long, Red Brass Pipe Nipple	48.04	
22 11 16 00-1257		1" Red Brass Pipe Nipples (22 11 16 00-1063) Note: Threaded both ends.		
22 11 16 00-1258	EA	1" x Close, Red Brass Pipe Nipple	22.43	
22 11 16 00-1259	EA	1" x 1-1/2" Long, Red Brass Pipe Nipple	24.68	
22 11 16 00-1260	EA	1" x 2" Long, Red Brass Pipe Nipple	26.94	
22 11 16 00-1261	EA	1" x 2-1/2" Long, Red Brass Pipe Nipple	32.05	
22 11 16 00-1262	EA	1" x 3" Long, Red Brass Pipe Nipple	36.23	
22 11 16 00-1263	EA	1" x 3-1/2" Long, Red Brass Pipe Nipple	42.66	
22 11 16 00-1264	EA	1" x 4" Long, Red Brass Pipe Nipple	47.77	
22 11 16 00-1265	EA	1" x 4-1/2" Long, Red Brass Pipe Nipple	52.82	
22 11 16 00-1266	EA	1" x 5" Long, Red Brass Pipe Nipple	57.99	
22 11 16 00-1267	EA	1" x 5-1/2" Long, Red Brass Pipe Nipple	63.43	
22 11 16 00-1268	EA	1" x 6" Long, Red Brass Pipe Nipple	68.48	
22 11 16 00-1269		1-1/4" Red Brass Pipe Nipples (22 11 16 00-1063) Note: Threaded both ends.		
22 11 16 00-1270	EA	1-1/4" x Close, Red Brass Pipe Nipple	33.18	
22 11 16 00-1271	EA	1-1/4" x 1-1/2" Long, Red Brass Pipe Nipple	35.35	
22 11 16 00-1272	EA	1-1/4" x 2" Long, Red Brass Pipe Nipple	38.02	
22 11 16 00-1273	EA	1-1/4" x 2-1/2" Long, Red Brass Pipe Nipple	45.78	
22 11 16 00-1274	EA	1-1/4" x 3" Long, Red Brass Pipe Nipple	53.48	
22 11 16 00-1275	EA	1-1/4" x 3-1/2" Long, Red Brass Pipe Nipple	62.77	
22 11 16 00-1276	EA	1-1/4" x 4" Long, Red Brass Pipe Nipple	70.47	
22 11 16 00-1277	EA	1-1/4" x 4-1/2" Long, Red Brass Pipe Nipple	78.16	
22 11 16 00-1278	EA	1-1/4" x 5" Long, Red Brass Pipe Nipple	85.93	
22 11 16 00-1279	EA	1-1/4" x 5-1/2" Long, Red Brass Pipe Nipple	94.02	
22 11 16 00-1280	EA	1-1/4" x 6" Long, Red Brass Pipe Nipple	101.72	



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 11 16 00-1281		1-1/2" Red Brass Pipe Nipples (22 11 16 00-1063)	
		Note: Threaded both ends.	
22 11 16 00-1282	EA	1-1/2" x Close, Red Brass Pipe Nipple	41.27
22 11 16 00-1283	EA	1-1/2" x 1-1/2" Long, Red Brass Pipe Nipple	43.07
22 11 16 00-1284	EA	1-1/2" x 2" Long, Red Brass Pipe Nipple	44.85
22 11 16 00-1285	EA	1-1/2" x 2-1/2" Long, Red Brass Pipe Nipple	54.54
22 11 16 00-1286	EA	1-1/2" x 3" Long, Red Brass Pipe Nipple	61.84
22 11 16 00-1287	EA	1-1/2" x 3-1/2" Long, Red Brass Pipe Nipple	72.72
22 11 16 00-1288	EA	1-1/2" x 4" Long, Red Brass Pipe Nipple	81.88
22 11 16 00-1289	EA	1-1/2" x 4-1/2" Long, Red Brass Pipe Nipple	91.37
22 11 16 00-1290	EA	1-1/2" x 5" Long, Red Brass Pipe Nipple	100.52
22 11 16 00-1291	EA	1-1/2" x 5-1/2" Long, Red Brass Pipe Nipple	109.48
22 11 16 00-1292	EA	1-1/2" x 6" Long, Red Brass Pipe Nipple	118.44
22 11 16 00-1293		2" Red Brass Pipe Nipples (22 11 16 00-1063)	
		Note: Threaded both ends.	
22 11 16 00-1294	EA	2" x Close, Red Brass Pipe Nipple	63.43
22 11 16 00-1295	EA	2" x 1-1/2" Long, Red Brass Pipe Nipple	65.65
22 11 16 00-1296	EA	2" x 2" Long, Red Brass Pipe Nipple	67.85
22 11 16 00-1297	EA	2" x 2-1/2" Long, Red Brass Pipe Nipple	70.07
22 11 16 00-1298	EA	2" x 3" Long, Red Brass Pipe Nipple	79.36
22 11 16 00-1299	EA	2" x 3-1/2" Long, Red Brass Pipe Nipple	93.56
22 11 16 00-1300	EA	2" x 4" Long, Red Brass Pipe Nipple	105.10
22 11 16 00-1301	EA	2" x 4-1/2" Long, Red Brass Pipe Nipple	116.65
22 11 16 00-1302	EA	2" x 5" Long, Red Brass Pipe Nipple	127.06
22 11 16 00-1303	EA	2" x 5-1/2" Long, Red Brass Pipe Nipple	140.14
22 11 16 00-1304	EA	2" x 6" Long, Red Brass Pipe Nipple	151.61
22 11 16 00-1305		Cross-Linked Polyethylene Tubing, ASTM F877 (22 11 16)	
		Note: Aboveground, domestic water usage.	
22 11 16 00-1306		Cross-Linked Polyethylene Tubing (22 11 16 00-1305)	
22 11 16 00-1307	LF	3/8" Cross-Linked Polyethylene (PEX , XPE or XLPE) Tubing	5.34
		For Work In Restricted Working Space, Add	0.97
22 11 16 00-1308	LF	1/2" Cross-Linked Polyethylene (PEX , XPE or XLPE) Tubing	5.84
		For Work In Restricted Working Space, Add	1.04
22 11 16 00-1309	LF	3/4" Cross-Linked Polyethylene (PEX , XPE or XLPE) Tubing	8.08
		For Work In Restricted Working Space, Add	1.13
22 11 16 00-1310	LF	1" Cross-Linked Polyethylene (PEX , XPE or XLPE) Tubing	11.37
		For Work In Restricted Working Space, Add	1.19
22 11 16 00-1311		Cross-Linked Polyethylene Forged Brass PEX Fittings (22 11 16 00-1305)	
		Note: Aboveground, domestic water usage.	
22 11 16 00-1312		Male Adapters (22 11 16 00-1311)	
22 11 16 00-1313	EA	3/8" x 1/2", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	24.33
		For Work In Restricted Working Space, Add	5.01
22 11 16 00-1314	EA	1/2" x 1/2", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	26.35
		For Work In Restricted Working Space, Add	5.35
22 11 16 00-1315	EA	1/2" x 3/4", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	29.24
		For Work In Restricted Working Space, Add	5.68
22 11 16 00-1316	EA	3/4" x 3/4", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	30.35
		For Work In Restricted Working Space, Add	6.02
22 11 16 00-1317	EA	3/4" x 1/2", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	29.24
		For Work In Restricted Working Space, Add	5.68
22 11 16 00-1318	EA	1" x 1", (PE x Threaded) Forged Brass Male Adapter For PEX Tubing	40.43
		For Work In Restricted Working Space, Add	6.69
22 11 16 00-1319		Female Adapters (22 11 16 00-1311)	
22 11 16 00-1320	EA	1/2" x 1/2", (PE x Threaded) Forged Brass Female Adapter For PEX Tubing	27.24
		For Work In Restricted Working Space, Add	5.35
22 11 16 00-1321	EA	1/2" x 3/4", (PE x Threaded) Forged Brass Female Adapter For PEX Tubing	31.68
		For Work In Restricted Working Space, Add	5.68
22 11 16 00-1322	EA	3/4" x 3/4", (PE x Threaded) Forged Brass Female Adapter For PEX Tubing	32.79
		For Work In Restricted Working Space, Add	6.02
22 11 16 00-1323	EA	3/4" x 1/2", (PE x Threaded) Forged Brass Female Adapter For PEX Tubing	31.68
		For Work In Restricted Working Space, Add	5.68
22 11 16 00-1324	EA	1" x 1", (PE x Threaded) Forged Brass Female Adapter For PEX Tubing	41.55
		For Work In Restricted Working Space, Add	6.69
22 11 16 00-1325		Tube Adapters (22 11 16 00-1311)	
22 11 16 00-1326	EA	3/8" x 1/2" Forged Brass Tube Adapter For PEX Tubing	20.72
		For Work In Restricted Working Space, Add	5.01
22 11 16 00-1327	EA	1/2" Forged Brass Tube Adapter For PEX Tubing	21.84
		For Work In Restricted Working Space, Add	5.35
22 11 16 00-1328	EA	3/4" Forged Brass Tube Adapter For PEX Tubing	27.45
		For Work In Restricted Working Space, Add	6.02



Plumbing			22
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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 16 00-1329	EA		1" Forged Brass Tube Adapter For PEX Tubing..... <i>For Work In Restricted Working Space, Add</i>	38.15 6.69	
22 11 16 00-1330			Plugs (22 11 16 00-1311)		
22 11 16 00-1331	EA		3/8" Forged Brass Plug For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	10.92 2.34	
22 11 16 00-1332	EA		1/2" Forged Brass Plug For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	12.03 2.67	
22 11 16 00-1333	EA		3/4" Forged Brass Plug For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	14.04 3.01	
22 11 16 00-1334	EA		1" Forged Brass Plug For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	18.54 3.34	
22 11 16 00-1335			Tees (22 11 16 00-1311)		
22 11 16 00-1336	EA		3/8" Forged Brass Tee For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	29.91 7.02	
22 11 16 00-1337	EA		1/2" Forged Brass Tee For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	33.25 8.02	
22 11 16 00-1338	EA		3/4" Forged Brass Tee For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	41.04 9.02	
22 11 16 00-1339	EA		1" Forged Brass Tee For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	56.92 10.03	
22 11 16 00-1340	EA		1/2" Forged Brass Reducing Tee For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	32.13 7.69	
22 11 16 00-1341	EA		3/4" Forged Brass Reducing Tee For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	38.82 8.36	
22 11 16 00-1342	EA		1" Forged Brass Reducing Tee For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	51.79 9.02	
22 11 16 00-1343			Couplings (22 11 16 00-1311)		
22 11 16 00-1344	EA		3/8" Forged Brass Coupling For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	18.94 4.68	
22 11 16 00-1345	EA		1/2" Forged Brass Coupling For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	21.39 5.35	
22 11 16 00-1346	EA		3/4" Forged Brass Coupling For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	24.73 6.02	
22 11 16 00-1347	EA		1" Forged Brass Coupling For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	32.14 6.69	
22 11 16 00-1348	EA		3/4" x 1/2" Forged Brass Reducing Coupling For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	23.62 5.68	
22 11 16 00-1349	EA		1" x 3/4" Forged Brass Reducing Coupling For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	31.02 6.35	
22 11 16 00-1350			Fitting Reducers (22 11 16 00-1311)		
22 11 16 00-1351	EA		3/8" x 1/2" Forged Brass Fitting Reducer For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	21.39 5.01	
22 11 16 00-1352	EA		1/2" Forged Brass Fitting Reducer For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	22.51 5.35	
22 11 16 00-1353	EA		3/4" Forged Brass Fitting Reducer For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	28.79 6.02	
22 11 16 00-1354	EA		1" Forged Brass Fitting Reducer For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	45.78 6.69	
22 11 16 00-1355			90 Degree Elbows (22 11 16 00-1311)		
22 11 16 00-1356	EA		3/8" Forged Brass 90 Degree Elbow For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	20.94 4.68	
22 11 16 00-1357	EA		1/2" Forged Brass 90 Degree Elbow For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	23.17 5.35	
22 11 16 00-1358	EA		3/4" Forged Brass 90 Degree Elbow For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	28.79 6.02	
22 11 16 00-1359	EA		3/4" x 1/2" Forged Brass 90 Degree Elbow For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	27.68 5.68	
22 11 16 00-1360	EA		1/2" Drop 90 Degree Elbow For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	37.09 5.35	
22 11 16 00-1361	EA		3/4" Forged Brass Drop 90 Degree Elbow For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	41.31 6.02	
22 11 16 00-1362	EA		3/4" x 1/2" Forged Brass Drop 90 Degree Elbow For PEX Tubing <i>For Work In Restricted Working Space, Add</i>	40.20 5.68	
22 11 19			Domestic Water Piping Specialties (22 11)		
22 11 19 00-0001			Rubber Hose And Clamps (22 11 19)		
22 11 19 00-0002			General Purpose Hose (22 11 19 00-0001)		
Note: For medium pressure (up to 200/250 psi) applications requiring excellent resistance to air, oil and heat.					
22 11 19 00-0003	LF		3/8" Inside Diameter Ethylene Propylene Diene Monomer (EPDM) Rubber Hose And Clamp.....	8.40	2.22
22 11 19 00-0004	LF		1/2" Inside Diameter Ethylene Propylene Diene Monomer (EPDM) Rubber Hose And Clamp.....	10.03	2.22

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0005	LF	5/8" Inside Diameter Ethylene Propylene Diene Monomer (EPDM) Rubber Hose And Clamp.....	12.55	2.22
22 11 19 00-0006	LF	3/4" Inside Diameter Ethylene Propylene Diene Monomer (EPDM) Rubber Hose And Clamp.....	12.68	2.22
22 11 19 00-0007	LF	1" Inside Diameter Ethylene Propylene Diene Monomer (EPDM) Rubber Hose And Clamp.....	17.79	3.33
22 11 19 00-0008	LF	1-1/4" Inside Diameter Ethylene Propylene Diene Monomer (EPDM) Rubber Hose And Clamp.....	30.46	3.33
22 11 19 00-0009	LF	1-1/2" Inside Diameter Ethylene Propylene Diene Monomer (EPDM) Rubber Hose And Clamp.....	33.08	4.43
22 11 19 00-0010	LF	2" Inside Diameter Ethylene Propylene Diene Monomer (EPDM) Rubber Hose And Clamp.....	65.24	4.43
22 11 19 00-0011		Reinforced EPDM Water Hose Assembly (22 11 19 00-0001) Note: Includes male/female camlock, 150 psi, synthetic fiber with steel wire helix reinforcement.		
22 11 19 00-0012	LF	1-1/2" Inside Diameter, Ethylene Propylene Diene Monomer (EPDM) Rubber Hose, Male/Female Camlocks, Synthetic Fiber With Steel Wire Helix Reinforcement.....	87.61	4.43
22 11 19 00-0013	LF	2" Inside Diameter, Ethylene Propylene Diene Monomer (EPDM) Rubber Hose, Male/Female Camlocks, Synthetic Fiber With Steel Wire Helix Reinforcement.....	103.56	4.43
22 11 19 00-0014	LF	3" Inside Diameter, Ethylene Propylene Diene Monomer (EPDM) Rubber Hose, Male/Female Camlocks, Synthetic Fiber With Steel Wire Helix Reinforcement.....	145.69	5.45
22 11 19 00-0015	LF	4" Inside Diameter, Ethylene Propylene Diene Monomer (EPDM) Rubber Hose, Male/Female Camlocks, Synthetic Fiber With Steel Wire Helix Reinforcement.....	205.25	7.36
22 11 19 00-0016		Chemical Resistant Rubber Hoses (22 11 19 00-0001)		
22 11 19 00-0017	EA	50' x 6" Brown Gum Rubber, Chemical Resistant Flexible Hose.....	1,281.25	267.51
22 11 19 00-0018	EA	50' x 6" Nitrile Rubber, Low pH Resistance, Flexible Hose.....	1,770.16	267.51
22 11 19 00-0019		Water Pump Hose (22 11 19 00-0001)		
22 11 19 00-0020	EA	2" Inside Diameter, 20' Rubber Discharge Hose.....	716.27	67.70
22 11 19 00-0021	EA	2" Inside Diameter, 20' Rubber Intake Hose.....	761.21	67.70
22 11 19 00-0022		Barbed Hose x Threaded Male Pipe, Steel Coupling (22 11 19 00-0001)		
22 11 19 00-0023	EA	3/8" Inside Diameter Barbed Hose x 1/2" Threaded Male Pipe, Steel Coupling.....	27.95	9.31
22 11 19 00-0024	EA	1/2" Inside Diameter Barbed Hose x 1/2" Threaded Male Pipe, Steel Coupling.....	29.64	9.98
22 11 19 00-0025	EA	5/8" Inside Diameter Barbed Hose x 3/4" Threaded Male Pipe, Steel Coupling.....	31.74	10.64
22 11 19 00-0026	EA	3/4" Inside Diameter Barbed Hose x 3/4" Threaded Male Pipe, Steel Coupling.....	36.18	11.96
22 11 19 00-0027	EA	1" Inside Diameter Barbed Hose x 1" Threaded Male Pipe, Steel Coupling.....	43.15	14.63
22 11 19 00-0028	EA	1-1/4" Inside Diameter Barbed Hose x 1-1/4" Threaded Male Pipe, Steel Coupling.....	51.09	17.51
22 11 19 00-0029	EA	1-1/2" Inside Diameter Barbed Hose x 1-1/2" Threaded Male Pipe, Steel Coupling.....	65.76	23.04
22 11 19 00-0030	EA	2" Inside Diameter Barbed Hose x 2" Threaded Male Pipe, Steel Coupling.....	82.82	28.81
22 11 19 00-0031		Worm-Drive Hose Clamp (22 11 19 00-0001)		
22 11 19 00-0032	EA	3/8" To 1" Diameter Worm Drive Hose Clamp.....	12.60	3.33
22 11 19 00-0033	EA	1/2" To 1-1/6" Diameter Worm Drive Hose Clamp.....	13.30	3.33
22 11 19 00-0034	EA	5/8" To 1-1/2" Diameter Worm Drive Hose Clamp.....	14.02	3.33
22 11 19 00-0035	EA	3/4" To 2" Diameter Worm Drive Hose Clamp.....	14.90	3.33
22 11 19 00-0036	EA	1" To 2-1/2" Diameter Worm Drive Hose Clamp.....	15.89	3.33
22 11 19 00-0037	EA	1-1/4" To 2-3/4" Diameter Worm Drive Hose Clamp.....	17.29	4.43
22 11 19 00-0038	EA	1-1/2" To 3" Diameter Worm Drive Hose Clamp.....	18.61	4.43
22 11 19 00-0039		Trap Primer And Accessories (22 11 19)		
22 11 19 00-0040		Trap Primer (22 11 19 00-0039)		
22 11 19 00-0041	EA	1/2" Inlet/Outlet, Flow Through Automatic Trap Primer (JR Smith 2699).....	323.16	16.71
22 11 19 00-0042	EA	1/2" Inlet/Outlet, Automatic Trap Primer, Up To Two Floor Drains (PPP PR-500).....	197.71	11.14
22 11 19 00-0043	EA	1/2" Inlet/Outlet, Automatic Trap Primer, Up To Four Floor Drains (PPP PO-500).....	191.28	11.14
22 11 19 00-0044		Trap Primer Distribution Unit (22 11 19 00-0039)		
22 11 19 00-0045	EA	Molded Plastic Four Opening Trap Primer Distribution Unit (PPP DU-U)..... Note: Can be used for two, three or four drains.	158.68	22.29
22 11 19 00-0046	EA	Copper Four Opening Trap Primer Distribution Unit (PPP DU-4)..... Note: Can be used for two, three or four drains.	175.99	22.29
22 11 19 00-0047		Trap Primer Manifold (22 11 19 00-0039)		
22 11 19 00-0048	EA	Two Outlet Trap Primer Manifold.....	258.43	29.97
22 11 19 00-0049	EA	Four Outlet Trap Primer Manifold.....	394.33	34.09
22 11 19 00-0050	EA	Six Outlet Trap Primer Manifold.....	527.64	36.10
22 11 19 00-0051	EA	Eight Outlet Trap Primer Manifold.....	664.70	42.34
22 11 19 00-0052		Sewage Air Release Valves (22 11 19)		
22 11 19 00-0053		Cast Iron, Sewage Air Release Valves (22 11 19 00-0052) Note: Stainless steel float.		
22 11 19 00-0054	EA	2" x 1/2" NPT, Cast Iron, Sewage Air Release Valve (Apco 400)..... For Back Flush Attachment, Add	950.70 650.00	40.69
22 11 19 00-0055	EA	3" x 1/2" NPT, Cast Iron, Sewage Air Release Valve (Apco 400)..... For Back Flush Attachment, Add	1,165.73 650.00	67.99



Plumbing			22
Plumbing Piping			22 10
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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0056	EA		4" x 1/2" NPT, Cast Iron, Sewage Air Release Valve (Apco 400)..... <i>For Back Flush Attachment, Add</i>	1,478.24 650.00	85.83
22 11 19 00-0057			Cast Iron, Sewage Air Vacuum Valves (22 11 19 00-0052) Note: Stainless steel float.		
22 11 19 00-0058	EA		2" x 1" NPT, Cast Iron, Sewage Air Vacuum Valve (Apco 401)..... <i>For Back Flush Attachment, Add</i>	971.40 650.00	40.69
22 11 19 00-0059	EA		2" x 2" NPT, Cast Iron, Sewage Air Vacuum Valve (Apco 402)..... <i>For Back Flush Attachment, Add</i>	1,908.00 650.00	40.69
22 11 19 00-0060	EA		3" x 2" NPT, Cast Iron, Sewage Air Vacuum Valve (Apco 403)..... <i>For Back Flush Attachment, Add</i>	2,288.61 650.00	67.99
22 11 19 00-0061	EA		4" NPT x 4" With Hood, Cast Iron, Sewage Air Vacuum Valve (Apco 404)	3,390.25	85.83
22 11 19 00-0062			Cast Iron, Sewage Combination Air Valves (22 11 19 00-0052) Note: Stainless steel float.		
22 11 19 00-0063	EA		2" x 1" NPT, Sewage Combination Air Valve (Apco 443)	2,078.77	40.69
22 11 19 00-0064	EA		2" x 2" NPT, Sewage Combination Air Valve (Apco 445)	2,867.89	40.69
22 11 19 00-0065	EA		3" x 3" NPT, Sewage Combination Air Valve (Apco 447)	3,354.58	67.99
22 11 19 00-0066	EA		4" x 4" NPT, Sewage Combination Air Valve (Apco 449)	4,101.76	85.83
22 11 19 00-0067			Brass, Anti Siphon Vacuum Breakers (22 11 19) Note: Watts 288A		
22 11 19 00-0068	EA		1/2" Brass, Anti Siphon Vacuum Breaker	110.50	27.86
22 11 19 00-0069	EA		3/4" Brass, Anti Siphon Vacuum Breaker	127.31	31.20
22 11 19 00-0070	EA		1" Brass, Anti Siphon Vacuum Breaker	270.41	35.65
22 11 19 00-0071	EA		1-1/4" Brass, Anti Siphon Vacuum Breaker	435.34	41.22
22 11 19 00-0072	EA		1-1/2" Brass, Anti Siphon Vacuum Breaker	520.36	45.68
22 11 19 00-0073	EA		2" Brass, Anti Siphon Vacuum Breaker	765.67	55.71
22 11 19 00-0074	EA		2-1/2" Brass, Anti Siphon Vacuum Breaker	2,033.42	69.64
22 11 19 00-0075			Anti Siphon Pressure Vacuum Breakers (22 11 19) Note: Watts 800M4QT		
22 11 19 00-0076	EA		1/2" Anti Siphon Pressure Type Vacuum Breaker	342.58	27.86
22 11 19 00-0077	EA		3/4" Anti Siphon Pressure Type Vacuum Breaker	297.28	31.20
22 11 19 00-0078	EA		1" Anti Siphon Pressure Type Vacuum Breaker	428.26	35.65
22 11 19 00-0079	EA		1-1/4" Anti Siphon Pressure Type Vacuum Breaker	782.63	41.22
22 11 19 00-0080	EA		1-1/2" Anti Siphon Pressure Type Vacuum Breaker	953.75	45.68
22 11 19 00-0081	EA		2" Anti Siphon Pressure Type Vacuum Breaker	959.81	55.71
22 11 19 00-0082			Bellows Type Water Hammer Arrestors (22 11 19)		
22 11 19 00-0083	EA		Up To 11 Fixture Unit Capacity, 3/4" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5005)	165.71	13.32
22 11 19 00-0084	EA		>11 To 32 Fixture Unit Capacity, 1" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5010)	315.72	16.12
22 11 19 00-0085	EA		>32 To 60 Fixture Unit Capacity, 1" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5020)	455.55	16.12
22 11 19 00-0086	EA		>60 To 113 Fixture Unit Capacity, 1" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5030)	1,093.88	16.12
22 11 19 00-0087	EA		>113 To 154 Fixture Unit Capacity, 1" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5040)	1,227.06	16.12
22 11 19 00-0088	EA		>154 To 330 Fixture Unit Capacity, 1" Nipple, Stainless Steel, Hydrotrol Water Hammer Arrestor (Jay R. Smith® 5050)	1,500.87	16.12
22 11 19 00-0089			Piston Type Water Hammer Arrestors (22 11 19)		
22 11 19 00-0090			Threaded Piston Type Water Hammer Arrestors (22 11 19 00-0089)		
22 11 19 00-0091	EA		Up To 11 Fixture Unit Capacity, 1/2" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-A)	192.30	7.43
22 11 19 00-0092	EA		>11 To 32 Fixture Unit Capacity, 3/4" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-B).....	372.01	8.57
22 11 19 00-0093	EA		>32 To 60 Fixture Unit Capacity, 1" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-C)	554.48	9.29
22 11 19 00-0094	EA		>60 To 113 Fixture Unit Capacity, 1-1/4" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-D)	1,369.13	11.98
22 11 19 00-0095	EA		>113 To 154 Fixture Unit Capacity, 1-1/2" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-E).....	1,667.42	14.86
22 11 19 00-0096	EA		>154 To 330 Fixture Unit Capacity, 2" M.P.T Brass Connection, Copper Body, Piston Type Water Hammer Arrestor (MI Fab MWH-F)	1,897.77	16.12
22 11 19 00-0097			Escutcheons (22 11 19)		
22 11 19 00-0098			Brass Escutcheons (22 11 19 00-0097)		
22 11 19 00-0099			Shallow Brass Escutcheons (22 11 19 00-0098)		
22 11 19 00-0100	EA		3/8" IPS, Antique Or Polished Brass Shallow Escutcheon.....	13.07	2.79
22 11 19 00-0101	EA		1/2" IPS, Antique Or Polished Brass Shallow Escutcheon.....	14.12	2.79

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 11 19 00-0102		Deep Bell Brass Escutcheons (22 11 19 00-0098)			
22 11 19 00-0103	EA	3/8" IPS, Antique Or Polished Deep Bell Brass Escutcheon	15.49	3.12	
22 11 19 00-0104	EA	1/2" IPS, Antique Or Polished Deep Bell Brass Escutcheon	15.53	3.12	
22 11 19 00-0105		Chrome Plated Brass Escutcheons With Setscrew (22 11 19 00-0098)			
22 11 19 00-0106	EA	3/8" IPS, Chrome Plated Brass Escutcheon With Setscrew	22.84	2.79	
22 11 19 00-0107	EA	1/2" IPS, Chrome Plated Brass Escutcheon With Setscrew	23.08	2.79	
22 11 19 00-0108	EA	5/8" IPS, Chrome Plated Brass Escutcheon With Setscrew	23.45	2.79	
22 11 19 00-0109	EA	3/4" IPS, Chrome Plated Brass Escutcheon With Setscrew	24.78	2.79	
22 11 19 00-0110	EA	7/8" IPS, Chrome Plated Brass Escutcheon With Setscrew	25.14	3.34	
22 11 19 00-0111	EA	1" IPS, Chrome Plated Brass Escutcheon With Setscrew	26.44	3.34	
22 11 19 00-0112	EA	1-1/4" IPS, Chrome Plated Brass Escutcheon With Setscrew	27.36	3.68	
22 11 19 00-0113	EA	1-1/2" IPS, Chrome Plated Brass Escutcheon With Setscrew	28.58	3.90	
22 11 19 00-0114	EA	2" IPS, Chrome Plated Brass Escutcheon With Setscrew	41.29	4.46	
22 11 19 00-0115		Plastic Escutcheons (22 11 19 00-0097)			
22 11 19 00-0116		Split-Ring White Plastic Escutcheons (22 11 19 00-0115)			
22 11 19 00-0117	EA	3/8" IPS, Split-Ring White Plastic Escutcheon	6.97	2.77	
22 11 19 00-0118	EA	1/2" IPS, Split-Ring White Plastic Escutcheon	6.97	2.77	
22 11 19 00-0119	EA	3/4" IPS, Split-Ring White Plastic Escutcheon	8.18	3.10	
22 11 19 00-0120	EA	1" IPS, Split-Ring White Plastic Escutcheon	8.86	3.33	
22 11 19 00-0121	EA	1-1/4" IPS, Split-Ring White Plastic Escutcheon	9.53	3.66	
22 11 19 00-0122	EA	1-1/2" IPS, Split-Ring White Plastic Escutcheon	10.18	3.88	
22 11 19 00-0123	EA	2" IPS, Split-Ring White Plastic Escutcheon	11.44	4.43	
22 11 19 00-0124	EA	2-1/2" IPS, Split-Ring White Plastic Escutcheon	14.98	4.76	
22 11 19 00-0125	EA	3" IPS, Split-Ring White Plastic Escutcheon	18.51	4.98	
22 11 19 00-0126	EA	4" IPS, Split-Ring White Plastic Escutcheon	22.58	5.55	
22 11 19 00-0127		Chrome Plate Plastic Escutcheons (22 11 19 00-0115)			
22 11 19 00-0128	EA	1/2" IPS, Chrome Plate Plastic Escutcheon	9.41	2.77	
22 11 19 00-0129	EA	3/4" IPS, Chrome Plate Plastic Escutcheon	10.27	3.10	
22 11 19 00-0130	EA	1" IPS, Chrome Plate Plastic Escutcheon	11.55	3.33	
22 11 19 00-0131	EA	1-1/4" IPS, Chrome Plate Plastic Escutcheon	12.83	3.66	
22 11 19 00-0132	EA	1-1/2" IPS, Chrome Plate Plastic Escutcheon	13.49	3.88	
22 11 19 00-0133	EA	2" IPS, Chrome Plate Plastic Escutcheon	17.09	4.43	
22 11 19 00-0134	EA	2-1/2" IPS, Chrome Plate Plastic Escutcheon	25.16	4.76	
22 11 19 00-0135	EA	3" IPS, Chrome Plate Plastic Escutcheon	26.03	4.98	
22 11 19 00-0136	EA	4" IPS, Chrome Plate Plastic Escutcheon	27.75	5.55	
22 11 19 00-0137		Stainless Steel Escutcheons (22 11 19 00-0097)			
22 11 19 00-0138		Shallow Stainless Steel Escutcheons (22 11 19 00-0137)			
22 11 19 00-0139	EA	3/8" IPS, Shallow Stainless Steel Escutcheon	18.28	2.79	
22 11 19 00-0140	EA	1/2" IPS, Shallow Stainless Steel Escutcheon	18.28	2.79	
22 11 19 00-0141	EA	3/4" IPS, Shallow Stainless Steel Escutcheon	26.26	3.12	
22 11 19 00-0142		Chrome Plated Steel Escutcheons (22 11 19 00-0097)			
22 11 19 00-0143		Split-Ring Chrome Plated Steel Escutcheons (22 11 19 00-0142)			
22 11 19 00-0144	EA	1/2" IPS, Split-Ring Chrome Plated Steel Escutcheon	6.31	2.77	
22 11 19 00-0145	EA	3/4" IPS, Split-Ring Chrome Plated Steel Escutcheon	6.86	3.10	
22 11 19 00-0146	EA	1" IPS, Split-Ring Chrome Plated Steel Escutcheon	7.55	3.33	
22 11 19 00-0147	EA	1-1/4" IPS, Split-Ring Chrome Plated Steel Escutcheon	8.10	3.66	
22 11 19 00-0148	EA	1-1/2" IPS, Split-Ring Chrome Plated Steel Escutcheon	8.66	3.88	
22 11 19 00-0149	EA	2" IPS, Split-Ring Chrome Plated Steel Escutcheon	9.98	4.43	
22 11 19 00-0150	EA	2-1/2" IPS, Split-Ring Chrome Plated Steel Escutcheon	15.63	4.76	
22 11 19 00-0151	EA	3" IPS, Split-Ring Chrome Plated Steel Escutcheon	16.61	4.98	
22 11 19 00-0152	EA	3-1/2" IPS, Split-Ring Chrome Plated Steel Escutcheon	20.70	5.31	
22 11 19 00-0153	EA	4" IPS, Split-Ring Chrome Plated Steel Escutcheon	18.07	5.55	
22 11 19 00-0154	EA	5" IPS, Split-Ring Chrome Plated Steel Escutcheon	23.61	6.10	
22 11 19 00-0155	EA	6" IPS, Split-Ring Chrome Plated Steel Escutcheon	27.68	6.65	
22 11 19 00-0156		Split-Ring/Springs Chrome Plated Steel Escutcheons (22 11 19 00-0142)			
22 11 19 00-0157	EA	3/8" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	10.57	2.77	
22 11 19 00-0158	EA	1/2" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	10.57	2.77	
22 11 19 00-0159	EA	3/4" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	11.28	3.10	
22 11 19 00-0160	EA	1" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	11.97	3.33	
22 11 19 00-0161	EA	1-1/4" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	13.49	3.66	
22 11 19 00-0162	EA	1-1/2" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	14.26	3.88	
22 11 19 00-0163	EA	2" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	16.94	4.43	
22 11 19 00-0164	EA	2-1/2" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	19.61	4.76	
22 11 19 00-0165	EA	3" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	24.19	4.98	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0166	EA	3-1/2" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	29.97	5.31
22 11 19 00-0167	EA	4" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	30.36	5.55
22 11 19 00-0168	EA	5" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	51.01	6.10
22 11 19 00-0169	EA	6" IPS, Split-Ring/Springs Chrome Plated Steel Escutcheon	53.18	6.65
22 11 19 00-0170		Deep Bell Chrome Plated Steel Escutcheons (22 11 19 00-0142)		
22 11 19 00-0171	EA	3/8" IPS, Deep Bell Chrome Plated Steel Escutcheon.....	7.78	3.12
22 11 19 00-0172	EA	1/2" IPS, Deep Bell Chrome Plated Steel Escutcheon.....	7.66	3.12
22 11 19 00-0173	EA	3/4" IPS, Deep Bell Chrome Plated Steel Escutcheon.....	7.40	3.12
22 11 19 00-0174	EA	1" IPS, Deep Bell Chrome Plated Steel Escutcheon	8.27	3.34
22 11 19 00-0175	EA	1-1/4" IPS, Deep Bell Chrome Plated Steel Escutcheon	8.98	3.68
22 11 19 00-0176	EA	1-1/2" IPS, Deep Bell Chrome Plated Steel Escutcheon	9.91	3.90
22 11 19 00-0177		Shallow Chrome Plated Steel Escutcheons (22 11 19 00-0142)		
22 11 19 00-0178	EA	3/8" IPS, Shallow Chrome Plated Steel Escutcheon	6.90	2.79
22 11 19 00-0179	EA	1/2" IPS, Shallow Chrome Plated Steel Escutcheon	6.90	2.79
22 11 19 00-0180	EA	3/4" IPS, Shallow Chrome Plated Steel Escutcheon	7.02	2.79
22 11 19 00-0181	EA	1" IPS, Shallow Chrome Plated Steel Escutcheon	7.53	3.34
22 11 19 00-0182	EA	1-1/4" IPS, Shallow Chrome Plated Steel Escutcheon	8.14	3.68
22 11 19 00-0183	EA	1-1/2" IPS, Shallow Chrome Plated Steel Escutcheon	9.05	3.90
22 11 19 00-0184	EA	2" IPS, Shallow Chrome Plated Steel Escutcheon	10.26	4.46
22 11 19 00-0185		Wall Hydrants (22 11 19) Note: Female inlet connection, 3/4" hose thread outlet.		
22 11 19 00-0186		Cast Bronze, Non-Freeze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrants (22 11 19 00-0185) Note: 3/4" HPT outlet. 3/4" NPT female and 1" NPT male inlet connection. Includes wall clamp.		
22 11 19 00-0187	EA	6" Thick Wall, Cast Bronze, Non-Freeze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrant.....	1,095.41	27.86
		For Cast Bronze Box, Add	58.11	
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0188	EA	12" Thick Wall, Cast Bronze, Non-Freeze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrant.....	1,148.23	33.43
		For Cast Bronze Box, Add	58.11	
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0189	EA	18" Thick Wall, Cast Bronze, Non-Freeze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrant.....	1,171.04	40.23
		For Cast Bronze Box, Add	58.11	
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0190		Cast Bronze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrants (22 11 19 00-0185) Note: 3/4" HPT outlet. 3/4" NPT female and 1" NPT male inlet connection. Includes wall clamp.		
22 11 19 00-0191	EA	Cast Bronze, Stainless Steel Box, Integral Vacuum Breaker Wall Hydrant	1,059.52	46.79
		For Cast Bronze Box, Add	58.11	
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0192		Cast Bronze Non-Freezing Wall Hydrant (22 11 19 00-0185) Note: 3/4" HPT outlet. 3/4" NPT female and 1" NPT male inlet connection. Includes wall clamp.		
22 11 19 00-0193	EA	3" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant.....	553.69	34.54
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0194	EA	4" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant.....	700.82	34.54
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0195	EA	6" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant.....	700.82	34.54
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0196	EA	8" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant.....	700.82	34.54
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0197	EA	10" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant.....	735.06	69.64
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0198	EA	12" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant.....	735.06	69.64
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0199	EA	18" Thick Wall, Cast Bronze, Non-Freeze, Nikaloy Face, Integral Vacuum Breaker Wall Hydrant.....	837.48	69.64
		For 1" NPT Outlet, Add	136.96	
22 11 19 00-0200		Stainless Steel Box Type Wall Hydrants (22 11 19 00-0185) Note: With 3/4" NPT female and 3/4" NPT male inlet connection.		
22 11 19 00-0201	EA	Recessed Stainless Steel Hose Box With Wall Flange Less Door (Acorn 8140).....	524.49	27.86
22 11 19 00-0202	EA	Recessed Stainless Steel Hose Box With Vacuum Breaker, Wall Flange Less Door (Acorn 8141)	575.83	27.86
22 11 19 00-0203	EA	Recessed Stainless Steel Hose Box With Wall Flange And Door (Acorn 8150).....	582.83	27.86
22 11 19 00-0204	EA	Recessed Stainless Steel Hose Box With Vacuum Breaker, Wall Flange And Door (Acorn 8151)	659.82	27.86
22 11 19 00-0205	EA	Recessed Stainless Steel Hose Box With Wall Flange Less Door (Acorn 8145).....	937.38	39.00
		Note: Includes hot and cold hose connections.		
22 11 19 00-0206	EA	Recessed Stainless Steel Hose Box With Vacuum Breaker, Wall Flange Less Door (Acorn 8146)	967.71	39.00
		Note: Includes hot and cold hose connections.		
22 11 19 00-0207	EA	Recessed Stainless Steel Hose Box With Wall Flange And Door (Acorn 8155).....	967.71	39.00
		Note: Includes hot and cold hose connections.		
22 11 19 00-0208	EA	Recessed Stainless Steel Hose Box With Vacuum Breaker, Wall Flange And Door (Acorn 8156)	1,040.04	39.00
		Note: Includes hot and cold hose connections.		



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0209		Washer Boxes And Dryer Outlets (22 11 19)		
22 11 19 00-0210		Dryer Vent Kit (22 11 19 00-0209) Note: Includes 4" flexible tubing plastic hood clamps and tailpipe.		
22 11 19 00-0211	EA	Dryer Vent Kit With Hood, 4" x 5' Flexible Vent And Clamps	79.15	14.48
22 11 19 00-0212		Washer Boxes And Dryer Vents (22 11 19 00-0209) Note: Includes 1/2" supply valves and mounting brackets.		
22 11 19 00-0213	EA	2" Washing Machine Outlet Box, Plastic, Two 1/2" Supply Valves	276.82	22.29
22 11 19 00-0214		Ice Maker Outlet Box (22 11 19) Note: Includes one 1/2" quarter turn ball valve and connections wall mount.		
22 11 19 00-0215	EA	Plastic Ice Maker Outlet Box, 1/2" Quarter Turn Ball Valve, Wall Mount	148.57	22.29
22 11 19 00-0216	EA	Plastic Ice Maker Outlet Box, 1/2" Quarter Turn Ball Valve With Water Hammer Arrestor, Wall Mount	151.52	22.29
22 11 19 00-0217	EA	Steel Ice Maker Outlet Box, 1/2" Quarter Turn Ball Valve, Wall Mount	228.42	22.29
22 11 19 00-0218		Tempering Controllers For Potable Hot Water (22 11 19)		
22 11 19 00-0219		Point-Of-Use Thermostatic Mixing Valves (Bradley) (22 11 19 00-0218) Note: Point-of-Use Water Tempering Valves: ASSE 1016, or 1070, with piston-control mechanism, positive shutoff of hot water when cold water supply is lost, bronze body and cap with replaceable corrosion-resistant components, including stainless steel piston and liner.		
22 11 19 00-0220	EA	1/2" Inlets, 1/2" Outlet Sink/Faucet Point-Of-Use Thermostatic Mixing Valve (Bradley S59-2007)	571.51	26.97
22 11 19 00-0221	EA	1/2" Inlets, 1/2" Outlet Point-Of-Use Thermostatic Mixing Valve (Bradley S59-4004)	138.36	26.97
22 11 19 00-0222	EA	1/2" Inlets, 1/2" Outlet Point-Of-Use Thermostatic Mixing Valve (Bradley S59-4008)	319.89	26.97
22 11 19 00-0223	EA	3/4" Inlets, 3/4" Outlet Point-Of-Use Thermostatic Mixing Valve (Bradley S59-4016)	364.69	36.33
22 11 19 00-0224		Thermostatic Mixing Valves (Bradley) (22 11 19 00-0218) Note: Standard Thermostatic, Water Mixing Valves: ASSE 1017, liquid-filled motor and piston control mechanism with positive shutoff of hot water when coldwater supply is lost. Water flow is shut off in event of thermostat failure. Bronze valve body and cap with replaceable corrosion-resistant components, including stainless steel piston and liner. Equipped with integral check stops and removable strainers.		
22 11 19 00-0225	EA	3/4" Inlets, 3/4" Outlet, 25 GPM Thermostatic Mixing Valve (Bradley S59-2025)	1,568.37	38.90
22 11 19 00-0226	EA	3/4" Inlets, 1" Outlet, 45 GPM Thermostatic Mixing Valve (Bradley S59-2045)	1,758.38	47.91
22 11 19 00-0227	EA	1" Inlets, 1-1/4" Outlet, 80 GPM Thermostatic Mixing Valve (Bradley S59-2080)	2,114.81	55.73
22 11 19 00-0228	EA	1-1/4" Inlets, 1-1/2" Outlet, 130 GPM Thermostatic Mixing Valve (Bradley S59-2130)	2,747.93	58.57
22 11 19 00-0229	EA	2" Inlets, 2" Outlet, 220 GPM Thermostatic Mixing Valve (Bradley S59-2200)	3,690.49	76.00
22 11 19 00-0230		High Low Temperature Thermostatic Mixing Valves (Bradley) (22 11 19 00-0218) Note: High Low Temperature Thermostatic Mixing Valves: ASSE 1017, liquid-filled thermal motor and piston control mechanism with positive shutoff of hot water when cold water supply is lost, and allowing restricted cold flow in event of loss or interruption of hot water supply. Flow is shut off in the event of thermostat failure. Equipped with integral check stops, thermometer, and removable strainers.		
22 11 19 00-0231	EA	3/4" Inlets, 1" Outlet, 45 GPM High-Low Thermostatic Mixing Valve (Bradley S59-3045)	4,016.94	59.91
22 11 19 00-0232	EA	1" Inlets, 1-1/4" Outlet, 80 GPM High-Low Thermostatic Mixing Valve (Bradley S59-3080)	5,232.22	69.66
22 11 19 00-0233	EA	1-1/4" Inlets, 1-1/2" Outlet, 130 GPM High-Low Thermostatic Mixing Valve (Bradley S59-3130)	6,105.89	73.22
22 11 19 00-0234	EA	2" Inlets, 2" Outlet, 220 GPM High-Low Thermostatic Mixing Valve (Bradley S59-3200)	6,757.81	94.99
22 11 19 00-0235		Thermostatic Mixing Valves (Leonard) (22 11 19 00-0218) Note: Thermostatic Water Mixing Valve with Integral combination checkstops with strainers, 125 PSI (8.6 BAR) maximum operating pressure, Copper encapsulated thermostatic assembly with Teflon coated brass shuttle, Locking temperature regulating handle, Top or bottom supply/outlet connections, Integral circulation port connection		
22 11 19 00-0236	EA	3/4" In x 3/4" Out Thermostatic Mixing Valve (Leonard LV-981-RF)	1,133.84	38.90
22 11 19 00-0237	EA	Note: For hot water or two pipe low pressure steam. 1" In x 1-1/4" Out Thermostatic Mixing Valve (Leonard LV-982-RF)	1,333.93	47.91
22 11 19 00-0238	EA	Note: For hot water or two pipe low pressure steam. 1-1/4" In x 1-1/4" Out Thermostatic Mixing Valve (Leonard LV-983-RF)	1,640.89	55.73
22 11 19 00-0239	EA	Note: For hot water or two pipe low pressure steam. 1-1/4" In x 1-1/2" Out Thermostatic Mixing Valve (Leonard LV-984-RF)	2,010.72	58.60
22 11 19 00-0240	EA	Note: For hot water or two pipe low pressure steam. 2" In x 2" Out Thermostatic Mixing Valve (Leonard LV-985-RF)	2,992.34	76.00
22 11 19 00-0241		Water Mixing/Self Operating Temperature Regulator (22 11 19 00-0218) Note: Includes high rate spring, temperature adjustment screw, temperature dial and remote bulb with 8' capillary tube.		
22 11 19 00-0242	EA	3/4" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator)	3,245.65	55.71
22 11 19 00-0243	EA	1" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator)	3,433.76	70.19
22 11 19 00-0244	EA	1-1/4" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator)	3,778.29	84.68
22 11 19 00-0245	EA	1-1/2" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator)	4,155.84	99.16
22 11 19 00-0246	EA	2" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator)	4,948.52	130.36
22 11 19 00-0247	EA	2-1/2" Valve Size, Water Mixing/Self Operating Temperature Regulator (Powers #11 Type WM Regulator)	5,852.00	148.67



Plumbing			22
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MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0248	Thermostatic Mixing Valves (Holby) (22 11 19 00-0218)			
22 11 19 00-0249	EA	2-1/2" Thermostatic Mixing Valve (Holby HOLBY2500).....	5,355.82	76.02
22 11 19 00-0250	Backflow Preventer Valves (22 11 19)			
22 11 19 00-0251	Double Check Valve Backflow Preventer Assemblies (22 11 19 00-0250)			
22 11 19 00-0252	Threaded Double Check Valve Assemblies (22 11 19 00-0251)			
22 11 19 00-0253	Double Check Valve Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0252)			
	Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, and two epoxy coated bronze body check valves (Watts 007 QT or 719 QT series).			
22 11 19 00-0254	EA	1/2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT series).....	470.88	29.86
		For Work In Restricted Working Space, Add	22.40	
		For Owner Furnished Material, Deduct	-396.23	
22 11 19 00-0255	EA	3/4" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT Series).....	553.15	42.34
		For Work In Restricted Working Space, Add	31.76	
		For Owner Furnished Material, Deduct	-447.30	
22 11 19 00-0256	EA	1" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT Series).....	636.75	51.70
		For Work In Restricted Working Space, Add	38.78	
		For Owner Furnished Material, Deduct	-507.50	
22 11 19 00-0257	EA	1-1/4" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT Series).....	896.02	60.17
		For Work In Restricted Working Space, Add	45.13	
		For Owner Furnished Material, Deduct	-745.60	
22 11 19 00-0258	EA	1-1/2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT Series).....	1,111.73	69.08
		For Work In Restricted Working Space, Add	51.47	
		For Owner Furnished Material, Deduct	-940.15	
22 11 19 00-0259	EA	2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 007 QT or 719 QT Series).....	1,276.86	89.13
		For Work In Restricted Working Space, Add	66.85	
		For Owner Furnished Material, Deduct	-1,054.03	
22 11 19 00-0260	Double Check Valve Assemblies With Quarter Turn Shut-Offs And Strainer (22 11 19 00-0252)			
	Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, two epoxy coated bronze body check valves, and bronze strainer (Watts 007 QT-S or 719 QT-S series).			
22 11 19 00-0261	EA	1/2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	584.26	29.86
		For Work In Restricted Working Space, Add	22.40	
		For Owner Furnished Material, Deduct	-509.61	
22 11 19 00-0262	EA	3/4" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	719.21	42.34
		For Work In Restricted Working Space, Add	31.76	
		For Owner Furnished Material, Deduct	-613.36	
22 11 19 00-0263	EA	1" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	840.33	51.70
		For Work In Restricted Working Space, Add	38.78	
		For Owner Furnished Material, Deduct	-711.08	
22 11 19 00-0264	EA	1-1/4" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	1,186.09	60.17
		For Work In Restricted Working Space, Add	45.13	
		For Owner Furnished Material, Deduct	-1,035.67	
22 11 19 00-0265	EA	1-1/2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	1,453.38	69.08
		For Work In Restricted Working Space, Add	51.47	
		For Owner Furnished Material, Deduct	-1,281.80	
22 11 19 00-0266	EA	2" Threaded Double Check Valve Assembly With Quarter Turn Shut-offs And Strainer (Watts 007 QT-S or 719 QT-S).....	1,748.54	89.13
		For Work In Restricted Working Space, Add	66.85	
		For Owner Furnished Material, Deduct	-1,525.71	
22 11 19 00-0267	Flanged Double Check Valve Assemblies (22 11 19 00-0251)			
22 11 19 00-0268	Double Check Valve Assemblies With Non-Rising Stem Shut-Offs (22 11 19 00-0267)			
	Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and two epoxy coated iron body check valves (Watts LF007 NRS series).			
22 11 19 00-0269	EA	2-1/2" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF007 NRS)	6,460.84	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-6,132.50	
22 11 19 00-0270	EA	3" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF007 NRS)	7,098.38	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-6,734.13	
22 11 19 00-0271	Double Check Valve Assemblies With Outside Stem And Yoke Shut-Offs (22 11 19 00-0267)			
	Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and two epoxy coated iron body check valves (Watts LF007 OSY series).			
22 11 19 00-0272	EA	2-1/2" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF007 OSY).....	7,084.17	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-6,755.83	
22 11 19 00-0273	EA	3" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 007 OSY)	8,137.26	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-7,773.01	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0274		Double Check Valve Assemblies With Non-Rising Stem Shut-Offs (22 11 19 00-0267) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and two epoxy coated iron body check valves (Watts LF709 NRS series).		
22 11 19 00-0275	EA	2-1/2" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS series).....	6,505.79	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-6,177.47	
22 11 19 00-0276	EA	3" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS series).....	4,043.64	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-4,579.38	
22 11 19 00-0277	EA	4" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS series).....	7,743.13	410.42
		For Work In Restricted Working Space, Add	164.08	
		For Owner Furnished Material, Deduct	-7,196.20	
22 11 19 00-0278	EA	6" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS Series)	11,767.69	627.27
		For Work In Restricted Working Space, Add	339.94	
		For Owner Furnished Material, Deduct	-10,634.56	
22 11 19 00-0279	EA	8" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS Series)	26,989.46	940.91
		For Work In Restricted Working Space, Add	509.99	
		For Owner Furnished Material, Deduct	-25,289.49	
22 11 19 00-0280	EA	10" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts LF709 NRS Series)	34,684.27	1,112.89
		For Work In Restricted Working Space, Add	607.04	
		For Owner Furnished Material, Deduct	-32,660.82	
22 11 19 00-0281		Double Check Valve Assemblies With Non-Rising Stem Shut-Offs And Strainer (22 11 19 00-0267) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, two epoxy coated iron body check valves, and iron body strainer (Watts 709 NRS-S series).		
22 11 19 00-0282	EA	4" Flanged Double Check Valve Assembly With NRS Shut-offs And Strainer (Watts LF709 NRS-S-FDA Series).....	9,059.51	410.42
		For Work In Restricted Working Space, Add	164.06	
		For Owner Furnished Material, Deduct	-8,512.63	
22 11 19 00-0283	EA	6" Flanged Double Check Valve Assembly With NRS Shut-offs And Strainer (Watts LF709 NRS-S-FDA Series).....	15,075.86	627.27
		For Work In Restricted Working Space, Add	339.94	
		For Owner Furnished Material, Deduct	-13,942.73	
22 11 19 00-0284	EA	10" Flanged Double Check Valve Assembly With NRS Shut-offs And Strainer (Watts LF709 NRS-S-FDA Series).....	40,328.00	1,112.89
		For Work In Restricted Working Space, Add	607.04	
		For Owner Furnished Material, Deduct	-38,304.55	
22 11 19 00-0285		Double Check Valve Assemblies With Outside Stem And Yoke Shut-Offs (22 11 19 00-0267) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and two epoxy coated iron body check valves (Watts LF709 OSY series).		
22 11 19 00-0286	EA	2-1/2" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY Series).....	6,913.59	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-6,585.27	
22 11 19 00-0287	EA	3" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY series)	7,596.11	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-7,231.86	
22 11 19 00-0288	EA	4" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY Series).....	8,220.65	410.42
		For Work In Restricted Working Space, Add	164.06	
		For Owner Furnished Material, Deduct	-7,673.77	
22 11 19 00-0289	EA	6" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY Series).....	13,798.19	627.27
		For Work In Restricted Working Space, Add	339.94	
		For Owner Furnished Material, Deduct	-12,665.06	
22 11 19 00-0290	EA	8" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY Series).....	28,675.48	940.91
		For Work In Restricted Working Space, Add	509.91	
		For Owner Furnished Material, Deduct	-26,975.78	
22 11 19 00-0291	EA	10" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts LF709 OSY Series).....	36,860.08	1,112.89
		For Work In Restricted Working Space, Add	607.04	
		For Owner Furnished Material, Deduct	-34,836.63	
22 11 19 00-0292		Double Check Valve Assemblies With Outside Stem And Yoke Shut-Offs (22 11 19 00-0267) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and single stainless steel housing and sleeve for two check valves (Watts 757 OSY series).		
22 11 19 00-0293	EA	2-1/2" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series).....	4,096.36	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-3,768.04	
22 11 19 00-0294	EA	3" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series).....	4,509.31	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-4,145.06	
22 11 19 00-0295	EA	4" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series).....	5,068.96	410.42
		For Work In Restricted Working Space, Add	164.06	
		For Owner Furnished Material, Deduct	-4,522.08	
22 11 19 00-0296	EA	6" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series).....	8,204.04	627.27
		For Work In Restricted Working Space, Add	339.94	
		For Owner Furnished Material, Deduct	-7,070.91	
22 11 19 00-0297	EA	8" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series).....	15,679.48	940.91
		For Work In Restricted Working Space, Add	509.91	
		For Owner Furnished Material, Deduct	-13,979.78	



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST	UNIT COST		
22 11 19 00-0298	EA 10" Flanged Double Check Valve Assembly With Outside Stem And Yoke Shut-offs (Watts 757 OSY Series)..... For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	16,982.81 607.04 -14,959.36		1,112.89	
22 11 19 00-0299	N-Pattern Double Check Valve Assemblies With Outside Stem And Yoke Shut-Offs (22 11 19 00-0267) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and single stainless steel housing and sleeve for two check valves (Watts 757N OSY series).				
22 11 19 00-0300	EA 2-1/2" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757N OSY Series)..... For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	5,433.34 98.50 -5,105.02		246.25	
22 11 19 00-0301	EA 3" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757N OSY Series)..... For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	5,846.29 109.28 -5,482.04		277.04	
22 11 19 00-0302	EA 4" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757 OSY Series)..... For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	7,303.10 164.06 -6,756.22		410.42	
22 11 19 00-0303	EA 6" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757N OSY Series)..... For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	11,944.09 339.94 -10,810.96		627.27	
22 11 19 00-0304	EA 8" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757N OSY Series)..... For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	21,222.62 509.91 -19,522.92		940.91	
22 11 19 00-0305	EA 10" N-Pattern Flanged Double Check Valve Assembly With Outside Stem And Yoke Shutoffs (Watts 757N OSY Series)..... For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	25,254.55 607.04 -23,231.10		1,112.89	
22 11 19 00-0306	Double Check Valve Assemblies With Non-Rising Stem Shut-Off Valves (22 11 19 00-0267) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and single stainless steel housing and sleeve for two check valves (Watts 757 NRS series).				
22 11 19 00-0307	EA 2-1/2" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS Series) For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	3,830.44 98.50 -3,502.12		246.25	
22 11 19 00-0308	EA 3" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS Series)..... For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	4,255.48 109.28 -3,891.23		277.04	
22 11 19 00-0309	EA 4" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS Series)..... For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	4,827.07 164.06 -4,280.19		410.42	
22 11 19 00-0310	EA 6" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS Series)..... For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	8,014.02 339.94 -6,880.89		627.27	
22 11 19 00-0311	EA 8" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS series) For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	15,496.36 509.91 -13,796.66		940.91	
22 11 19 00-0312	EA 10" Flanged Double Check Valve Assembly With NRS Shut-offs (Watts 757 NRS series) For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	17,494.11 607.04 -15,470.66		1,112.89	
22 11 19 00-0313	N-Pattern Double Check Valve Assemblies With Non-Rising Stem Shut-Offs (22 11 19 00-0267) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and single stainless steel housing and sleeve for two check valves (Watts 757N NRS series).				
22 11 19 00-0314	EA 2-1/2" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series)..... For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	5,055.31 98.50 -4,726.99		246.25	
22 11 19 00-0315	EA 3" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series) For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	5,468.26 109.28 -5,104.01		277.04	
22 11 19 00-0316	EA 4" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series) For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	6,925.54 164.06 -6,378.66		410.42	
22 11 19 00-0317	EA 6" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series) For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	11,541.95 339.94 -10,408.82		627.27	
22 11 19 00-0318	EA 8" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series) For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	20,613.94 509.91 -18,914.24		940.91	
22 11 19 00-0319	EA 10" N-Pattern Flanged Double Check Valve Assembly With NRS Shutoffs (Watts 757 NRS series) For Work In Restricted Working Space, Add For Owner Furnished Material, Deduct	24,644.10 607.04 -22,620.65		1,112.89	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0320		Double Check Valve Assemblies With Butterfly Shut-Off Valves (22 11 19 00-0267) Note: Includes ball type test cocks, two resilient seated iron body butterfly valves, and single stainless steel housing and sleeve for two check valves (Watts 757 BFG series).		
22 11 19 00-0321	EA	2-1/2" Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	4,459.35	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-4,131.03	
22 11 19 00-0322	EA	3" Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	4,872.30	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-4,508.05	
22 11 19 00-0323	EA	4" Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	5,431.95	410.42
		For Work In Restricted Working Space, Add	164.06	
		For Owner Furnished Material, Deduct	-4,885.07	
22 11 19 00-0324	EA	6" Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	8,576.18	627.27
		For Work In Restricted Working Space, Add	339.94	
		For Owner Furnished Material, Deduct	-7,443.05	
22 11 19 00-0325	EA	8" Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	16,051.62	940.91
		For Work In Restricted Working Space, Add	509.91	
		For Owner Furnished Material, Deduct	-14,351.92	
22 11 19 00-0326		N-Pattern Double Check Valve Assemblies With Butterfly Shut-Offs (22 11 19 00-0267) Note: Includes ball type test cocks, two resilient seated iron body butterfly valves, and single stainless steel housing and sleeve for two check valves (Watts 757N BFG series).		
22 11 19 00-0327	EA	2-1/2" N-Pattern Flanged Double Check Assembly With Butterfly Valves (Watts 757 BFG series)	5,796.33	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-5,468.01	
22 11 19 00-0328	EA	3" N-Pattern Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	6,209.28	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-5,845.03	
22 11 19 00-0329	EA	4" N-Pattern Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	7,666.09	410.42
		For Work In Restricted Working Space, Add	164.06	
		For Owner Furnished Material, Deduct	-7,119.21	
22 11 19 00-0330	EA	6" N-Pattern Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	12,316.31	627.27
		For Work In Restricted Working Space, Add	339.94	
		For Owner Furnished Material, Deduct	-11,183.18	
22 11 19 00-0331	EA	8" N-Pattern Flanged Double Check Valve Assembly With Butterfly Valves (Watts 757 BFG series)	16,051.62	940.91
		For Work In Restricted Working Space, Add	509.91	
		For Owner Furnished Material, Deduct	-14,351.92	
22 11 19 00-0332		Grooved Double Check Valve Assemblies (22 11 19 00-0251)		
22 11 19 00-0333		Double Check Valve Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0332) Note: Includes ball type test cocks, two quarter turn (QT) resilient seated iron body ball valves, and single stainless steel housing and sleeve for two check valves (Watts 757 QT series).		
22 11 19 00-0334	EA	2-1/2" Grooved Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 757 QT series)	3,830.44	131.34
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-3,502.12	
22 11 19 00-0335	EA	3" Grooved Double Check Valve Assembly With Quarter Turn Shut-offs (Watts 757 QT series)	4,255.48	145.70
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-3,891.23	
22 11 19 00-0336		N-Patten Double Check Valve Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0332) Note: Includes ball type test cocks, two quarter turn (QT) resilient seated iron body ball valves, and single stainless steel housing and sleeve for two check valves (Watts 757N QT series).		
22 11 19 00-0337	EA	2-1/2" N-Pattern Grooved Double Check Valve Assembly With QT Shutoffs (Watts 757 QT series)	5,055.31	131.34
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-4,726.99	
22 11 19 00-0338	EA	3" N-Pattern Grooved Double Check Valve Assembly With QT Shutoffs (Watts 757 QT series)	5,468.26	145.70
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-5,104.01	
22 11 19 00-0339		Reduced Pressure Zone Backflow Preventer Assemblies (22 11 19 00-0250)		
22 11 19 00-0340		Threaded Reduced Pressure Zone Assemblies (22 11 19 00-0339)		
22 11 19 00-0341		Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0340) Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, and captured spring assemblies (Watts 009 QT series).		
22 11 19 00-0342	EA	1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009 QT series)	525.46	25.85
		For Work In Restricted Working Space, Add	19.39	
		For Owner Furnished Material, Deduct	-460.84	
22 11 19 00-0343	EA	3/8" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009 QT series)	554.53	28.52
		For Work In Restricted Working Space, Add	21.39	
		For Owner Furnished Material, Deduct	-483.22	
22 11 19 00-0344	EA	1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009 QT series)	647.07	29.86
		For Work In Restricted Working Space, Add	22.40	
		For Owner Furnished Material, Deduct	-572.42	
22 11 19 00-0345	EA	3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009M3 QT series)	868.20	42.34
		For Work In Restricted Working Space, Add	31.76	
		For Owner Furnished Material, Deduct	-762.35	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0346	EA	1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009M2 QT series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,029.57 38.78 -900.32	51.70
22 11 19 00-0347	EA	1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009M2 QT series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,562.75 45.13 -1,412.33	60.17
22 11 19 00-0348	EA	1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009M2 QT series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,650.34 51.47 -1,478.76	69.08
22 11 19 00-0349	EA	2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 009M2 QT series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,977.61 66.85 -1,754.78	89.13
22 11 19 00-0350		Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs And Strainer (22 11 19 00-0340) Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, bronze strainer, and captured spring assemblies (Watts 009 QT-S series).		
22 11 19 00-0351	EA	1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	581.25 19.39 -516.63	25.85
22 11 19 00-0352	EA	3/8" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	613.33 21.39 -542.02	28.52
22 11 19 00-0353	EA	1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	727.64 22.40 -652.99	42.34
22 11 19 00-0354	EA	3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	994.83 31.76 -888.98	42.34
22 11 19 00-0355	EA	1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,187.90 38.78 -1,058.65	51.70
22 11 19 00-0356	EA	1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,778.68 45.13 -1,628.26	60.17
22 11 19 00-0357	EA	1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,955.06 51.47 -1,783.48	69.08
22 11 19 00-0358	EA	2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 009 QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	2,351.46 66.85 -2,128.63	89.13
22 11 19 00-0359		Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0340) Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, and captured spring assemblies (Watts 919 QT series).		
22 11 19 00-0360	EA	3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 919 QT series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	868.20 31.76 -762.35	42.34
22 11 19 00-0361	EA	1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 919 QT series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,029.57 38.78 -900.32	51.70
22 11 19 00-0362	EA	1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 919 QT series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,562.75 45.13 -1,412.33	60.17
22 11 19 00-0363	EA	1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 919 QT series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,650.34 51.47 -1,478.76	69.08
22 11 19 00-0364	EA	2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 919 QT series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,977.61 66.85 -1,754.78	89.13
22 11 19 00-0365		Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0340) Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, and captured spring assemblies (Watts 909 QT series).		
22 11 19 00-0366	EA	3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts LF909QT)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,808.70 31.76 -1,702.85	42.34
22 11 19 00-0367	EA	1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts LF909QT)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	2,140.28 38.78 -2,011.03	51.70
22 11 19 00-0368	EA	1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts LF909M1QT)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	3,300.98 45.13 -3,150.56	60.17



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0369	EA	1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts LF909M1QT) <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	3,567.25 51.47 -3,395.67	69.08
22 11 19 00-0370	EA	2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs (Watts 909M1QT)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	4,134.51 66.85 -3,911.68	89.13
22 11 19 00-0371 Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs And Strainer (22 11 19 00-0340) Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, bronze strainer, and captured spring assemblies (Watts LF909 QT-S series).				
22 11 19 00-0372	EA	3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts LF909QT-S)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	2,441.68 31.76 -2,335.83	42.34
22 11 19 00-0373	EA	1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts LF909QT-S)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	2,901.97 38.78 -2,772.72	51.70
22 11 19 00-0374	EA	1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts LF909M1QT-S)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	4,431.62 45.13 -4,281.20	60.17
22 11 19 00-0375	EA	1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts LF909M1QT-S)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	4,839.80 51.47 -4,668.22	69.08
22 11 19 00-0376	EA	2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts LF909M1QT-S)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	5,745.91 66.85 -5,523.08	89.13
22 11 19 00-0377 Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs And Strainer (22 11 19 00-0340) Note: Includes ball type test cocks, two quarter-turn (QT) full port resilient seated bronze body ball valves, bronze strainer, and captured spring assemblies (Watts 919 QT-S series).				
22 11 19 00-0378	EA	3/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 919QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	994.83 31.76 -888.98	42.34
22 11 19 00-0379	EA	1" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 919QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,187.90 38.78 -1,058.65	51.70
22 11 19 00-0380	EA	1-1/4" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 919QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,778.68 45.13 -1,628.26	60.17
22 11 19 00-0381	EA	1-1/2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 919QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	1,955.06 51.47 -1,783.48	69.08
22 11 19 00-0382	EA	2" Threaded Reduced Pressure Zone Assembly With Quarter Turn Shut-offs And Strainer (Watts 919QT-S series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	2,351.46 66.85 -2,128.63	89.13
22 11 19 00-0383 Flanged Reduced Pressure Zone Assemblies (22 11 19 00-0339)				
22 11 19 00-0384 Reduced Pressure Zone Assemblies With Non-Rising Stem Shut-Offs (22 11 19 00-0383) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and captured spring assemblies (Watts LF009 NRS series).				
22 11 19 00-0385	EA	2-1/2" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF009 NRS series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	5,938.30 98.50 -5,609.96	246.25
22 11 19 00-0386	EA	3" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF009 NRS series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	6,692.13 109.28 -6,327.88	277.04
22 11 19 00-0387 Reduced Pressure Zone Assemblies With Non-Rising Stem Shut-Off And Strainer (22 11 19 00-0383) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, iron body strainer, and captured spring assemblies (Watts LF009 NRS-S-FDA series).				
22 11 19 00-0388	EA	2-1/2" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF009 NRS-S-FDA series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	7,088.83 98.50 -6,760.49	246.25
22 11 19 00-0389	EA	3" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF009 NRS-S-FDA series)..... <i>For Work In Restricted Working Space, Add</i> <i>For Owner Furnished Material, Deduct</i>	8,028.72 109.28 -7,664.47	277.04



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

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MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0390		Reduced Pressure Zone Assemblies With Outside Stem And Yoke Shut-Offs (22 11 19 00-0383) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and captured spring assemblies (Watts LF009 OSY series).		
22 11 19 00-0391	EA	2-1/2" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF009 OSY series).....	6,378.66	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-6,050.32	
22 11 19 00-0392	EA	3" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF009 OSY series).....	7,424.00	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-7,059.75	
22 11 19 00-0393		Reduced Pressure Zone Assemblies With Outside Stem And Yoke Shut-Offs And Strainer (22 11 19 00-0383) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and captured spring assemblies. (Watts LF009 OSY-S-FDA Series)		
22 11 19 00-0394	EA	2-1/2" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs And Strainer (Watts LF009 OSY-S-FDA series).....	7,088.83	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-6,760.49	
22 11 19 00-0395	EA	3" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs And Strainer (Watts LF009 OSY-S-FDA series).....	8,028.72	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-7,664.47	
22 11 19 00-0396		Reduced Pressure Zone Assemblies With Quarter Turn Shut-Offs (22 11 19 00-0383) Note: Includes ball type test cocks, two quarter turn (QT) resilient seated iron body ball valves, and captured spring assemblies (Watts LF009 QT-FDA series).		
22 11 19 00-0397	EA	2-1/2" Flanged Reduced Pressure Zone Assembly With QT Shut-offs (Watts LF009 QT-FDA series).....	7,874.96	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-7,546.62	
22 11 19 00-0398	EA	3" Flanged Reduced Pressure Zone Assembly With QT Shut-offs (Watts LF009 QT-FDA series).....	9,115.67	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-8,751.42	
22 11 19 00-0399		Reduced Pressure Zone Assemblies With Non-Rising Stem Shut-Offs (22 11 19 00-0383) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, and captured spring assemblies (Watts LF909 NRS series).		
22 11 19 00-0400	EA	2-1/2" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909 NRS series).....	10,234.91	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-9,906.59	
22 11 19 00-0401	EA	3" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909 NRS series).....	11,629.15	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-11,264.89	
22 11 19 00-0402	EA	4" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909 NRS series).....	14,629.21	410.42
		For Work In Restricted Working Space, Add	164.08	
		For Owner Furnished Material, Deduct	-14,082.28	
22 11 19 00-0403	EA	6" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909 NRS series).....	22,047.58	627.27
		For Work In Restricted Working Space, Add	475.95	
		For Owner Furnished Material, Deduct	-20,461.09	
22 11 19 00-0404	EA	8" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909M1 NRS series).....	36,598.10	940.91
		For Work In Restricted Working Space, Add	713.92	
		For Owner Furnished Material, Deduct	-34,218.37	
22 11 19 00-0405	EA	10" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs (Watts LF909M1 NRS series).....	47,344.91	1,112.89
		For Work In Restricted Working Space, Add	607.04	
		For Owner Furnished Material, Deduct	-45,321.46	
22 11 19 00-0406		Reduced Pressure Zone Assemblies With Non-Rising Stem Shut-Off And Epoxy Coated Strainer (22 11 19 00-0383) Note: Includes ball type test cocks, two non-rising stem (NRS) resilient seated iron body gate valves, iron body strainer, and captured spring assemblies (Watts LF909 NRS-S-FDA series).		
22 11 19 00-0407	EA	2-1/2" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....	11,033.46	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-10,705.14	
22 11 19 00-0408	EA	3" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....	12,469.55	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-12,105.30	
22 11 19 00-0409	EA	4" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....	15,917.68	410.42
		For Work In Restricted Working Space, Add	164.06	
		For Owner Furnished Material, Deduct	-15,370.80	
22 11 19 00-0410	EA	6" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....	24,019.54	627.27
		For Work In Restricted Working Space, Add	339.94	
		For Owner Furnished Material, Deduct	-22,886.41	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0411	EA		8" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....	38,912.37	940.91
			For Work In Restricted Working Space, Add	509.91	
			For Owner Furnished Material, Deduct	-37,212.67	
22 11 19 00-0412	EA		10" Flanged Reduced Pressure Zone Assembly With NRS Shut-offs And Strainer (Watts LF909 NRS-S-FDA series).....	52,842.42	1,112.89
			For Work In Restricted Working Space, Add	607.04	
			For Owner Furnished Material, Deduct	-50,818.97	
22 11 19 00-0413 Reduced Pressure Zone Assemblies With Outside Stem And Yoke Shut-Offs (22 11 19 00-0383)					
Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, and captured spring assemblies (Watts LF909 OSY series).					
22 11 19 00-0414	EA		2-1/2" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909 OSY series).....	10,892.35	246.25
			For Work In Restricted Working Space, Add	98.50	
			For Owner Furnished Material, Deduct	-10,564.03	
22 11 19 00-0415	EA		3" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909 OSY series).....	12,382.73	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-12,018.47	
22 11 19 00-0416	EA		4" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909 OSY series).....	15,565.75	410.42
			For Work In Restricted Working Space, Add	164.08	
			For Owner Furnished Material, Deduct	-15,018.82	
22 11 19 00-0417	EA		6" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909 OSY series).....	22,959.47	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-21,826.34	
22 11 19 00-0418	EA		8" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909M1 OSY series).....	38,200.35	940.91
			For Work In Restricted Working Space, Add	509.91	
			For Owner Furnished Material, Deduct	-36,500.65	
22 11 19 00-0419	EA		10" Flanged Reduced Pressure Zone Assembly With Outside Stem And Yoke Shut-offs (Watts LF909M1 OSY series).....	50,364.64	1,112.89
			For Work In Restricted Working Space, Add	607.04	
			For Owner Furnished Material, Deduct	-48,341.19	
22 11 19 00-0420 Double Check Detector Assemblies (22 11 19 00-0250)					
22 11 19 00-0421 Flanged Double Check Detector Assemblies With Meter (22 11 19 00-0420)					
22 11 19 00-0422 Double Check Detector Assembly With Outside Stem And Yoke Shut-Offs And Meter (22 11 19 00-0421)					
Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, two epoxy coated iron body check valves, and meter (Watts 709 DCDA OSY series).					
22 11 19 00-0423	EA		3" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 007 DCDA OSY series).....	8,152.84	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-7,788.59	
22 11 19 00-0424	EA		4" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 007 DCDA OSY series).....	8,516.19	410.42
			For Work In Restricted Working Space, Add	164.06	
			For Owner Furnished Material, Deduct	-7,969.31	
22 11 19 00-0425	EA		6" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 007 DCDA OSY series).....	11,481.56	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-10,348.43	
22 11 19 00-0426	EA		8" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 007 DCDA OSY series).....	20,405.08	940.91
			For Work In Restricted Working Space, Add	509.91	
			For Owner Furnished Material, Deduct	-18,705.38	
22 11 19 00-0427	EA		10" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 007 DCDA OSY series).....	27,587.39	1,112.89
			For Work In Restricted Working Space, Add	607.04	
			For Owner Furnished Material, Deduct	-25,563.94	
22 11 19 00-0428 Double Check Detector Assembly With Outside Stem And Yoke Shut-Offs And Meter (22 11 19 00-0421)					
Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, single stainless steel housing and sleeve for two check valves, and meter (Watts 757 DCDA OSY series).					
22 11 19 00-0429	EA		2-1/2" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	6,098.40	246.25
			For Work In Restricted Working Space, Add	98.50	
			For Owner Furnished Material, Deduct	-5,770.06	
22 11 19 00-0430	EA		3" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	6,510.94	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-6,146.69	
22 11 19 00-0431	EA		4" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	7,079.51	410.42
			For Work In Restricted Working Space, Add	164.06	
			For Owner Furnished Material, Deduct	-6,532.63	



Plumbing			22
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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0432	EA		6" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	9,615.68	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-8,482.55	
22 11 19 00-0433	EA		8" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	17,032.67	940.91
			For Work In Restricted Working Space, Add	509.91	
			For Owner Furnished Material, Deduct	-15,332.97	
22 11 19 00-0434	EA		10" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs And Meter (Watts 757 DCDA OSY series).....	20,083.64	1,112.89
			For Work In Restricted Working Space, Add	607.04	
			For Owner Furnished Material, Deduct	-18,060.19	
22 11 19 00-0435			Double Check Detector Assembly With Butterfly Valves And Meter (22 11 19 00-0421) Note: Includes ball type test cocks, two resilient seated iron body butterfly valves, single stainless steel housing and sleeve for two check valves, and meter (Watts 757 DCDA BFG series).		
22 11 19 00-0436	EA		2-1/2" Flanged Double Check Detector Assembly With Butterfly Valves And Meter (Watts 757 DCDA BFG series).....	6,461.46	246.25
			For Work In Restricted Working Space, Add	98.50	
			For Owner Furnished Material, Deduct	-6,733.12	
22 11 19 00-0437	EA		3" Flanged Double Check Detector Assembly With Butterfly Valves And Meter (Watts 757 DCDA BFG series).....	6,874.01	277.04
			For Work In Restricted Working Space, Add	109.28	
			For Owner Furnished Material, Deduct	-6,509.76	
22 11 19 00-0438	EA		4" Flanged Double Check Detector Assembly With Butterfly Valves And Meter (Watts 757 DCDA BFG series).....	7,442.50	410.42
			For Work In Restricted Working Space, Add	164.06	
			For Owner Furnished Material, Deduct	-6,895.62	
22 11 19 00-0439	EA		6" Flanged Double Check Detector Assembly With Butterfly Valves And Meter (Watts 757 DCDA BFG series).....	9,987.81	627.27
			For Work In Restricted Working Space, Add	339.94	
			For Owner Furnished Material, Deduct	-8,854.68	
22 11 19 00-0440	EA		8" Flanged Double Check Detector Assembly With Butterfly Valves And Meter (Watts 757 DCDA BFG series).....	16,586.18	940.91
			For Work In Restricted Working Space, Add	509.91	
			For Owner Furnished Material, Deduct	-14,886.48	
22 11 19 00-0441			Flanged Double Check Detector Assemblies Without Meter (22 11 19 00-0420)		
22 11 19 00-0442			Double Check Detector Assembly With Outside Stem And Yoke Shut-Offs Less Meter (22 11 19 00-0441) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, single stainless steel housing and sleeve for two check valves (Watts 757 DCDA OSY LM series).		
22 11 19 00-0443	EA		2-1/2" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	5,983.76	246.25
			For Work In Restricted Working Space, Add	98.50	
22 11 19 00-0444	EA		3" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	6,396.35	277.04
			For Work In Restricted Working Space, Add	109.28	
22 11 19 00-0445	EA		4" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	6,964.92	410.42
			For Work In Restricted Working Space, Add	164.06	
22 11 19 00-0446	EA		6" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	9,501.09	627.27
			For Work In Restricted Working Space, Add	339.94	
22 11 19 00-0447	EA		8" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	16,918.16	940.91
			For Work In Restricted Working Space, Add	509.91	
22 11 19 00-0448	EA		10" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs Less Meter (Watts 757 DCDA OSY LM series).....	19,968.97	1,112.89
			For Work In Restricted Working Space, Add	607.04	
22 11 19 00-0449			Double Check Detector Assembly With Butterfly Valves Less Meter (22 11 19 00-0441) Note: Includes ball type test cocks, two butterfly resilient seated iron body butterfly valves, single stainless steel housing and sleeve for two check valves (Watts 757 DCDA BFG LM series).		
22 11 19 00-0450	EA		2-1/2" Flanged Double Check Detector Assembly With Butterfly Valves Less Meter (Watts 757 DCDA BFG LM series).....	6,346.80	246.25
			For Work In Restricted Working Space, Add	98.50	
22 11 19 00-0451	EA		3" Flanged Double Check Detector Assembly With Butterfly Valves Less Meter (Watts 757 DCDA BFG LM series).....	6,759.34	277.04
			For Work In Restricted Working Space, Add	109.28	
22 11 19 00-0452	EA		4" Flanged Double Check Detector Assembly With Butterfly Valves Less Meter (Watts 757 DCDA BFG LM series).....	7,327.91	410.42
			For Work In Restricted Working Space, Add	164.06	
22 11 19 00-0453	EA		6" Flanged Double Check Detector Assembly With Butterfly Valves Less Meter (Watts 757 DCDA BFG LM series).....	9,873.15	627.27
			For Work In Restricted Working Space, Add	339.94	
22 11 19 00-0454	EA		8" Flanged Double Check Detector Assembly With Butterfly Valves Less Meter (Watts 757 DCDA BFG LM series).....	17,290.29	940.91
			For Work In Restricted Working Space, Add	509.91	
22 11 19 00-0455			Flanged Double Check Detector Assemblies (22 11 19 00-0420)		
22 11 19 00-0456			Double Check Detector Assembly With Outside Stem And Yoke Shut-Offs (22 11 19 00-0455) Note: Includes ball type test cocks, two outside stem and yoke resilient seated iron body gate valves, single stainless steel housing and sleeve for two check valves, and meter (Watts 774 DCDA OSY series).		



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0457	EA	2-1/2" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	5,776.35	246.25
		For Work In Restricted Working Space, Add	98.50	
		For Owner Furnished Material, Deduct	-5,448.01	
22 11 19 00-0458	EA	3" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	6,996.27	277.04
		For Work In Restricted Working Space, Add	109.28	
		For Owner Furnished Material, Deduct	-6,632.02	
22 11 19 00-0459	EA	4" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	7,741.99	410.42
		For Work In Restricted Working Space, Add	164.06	
		For Owner Furnished Material, Deduct	-7,195.11	
22 11 19 00-0460	EA	6" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	9,744.69	627.27
		For Work In Restricted Working Space, Add	339.94	
		For Owner Furnished Material, Deduct	-8,611.56	
22 11 19 00-0461	EA	8" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	17,265.95	940.91
		For Work In Restricted Working Space, Add	509.91	
		For Owner Furnished Material, Deduct	-15,566.25	
22 11 19 00-0462	EA	10" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	23,297.12	1,112.89
		For Work In Restricted Working Space, Add	607.04	
		For Owner Furnished Material, Deduct	-21,273.67	
22 11 19 00-0463	EA	12" Flanged Double Check Detector Assembly With Outside Stem And Yoke Shut-offs (Watts 774 DCDA OSY series).....	31,114.23	1,335.47
		For Work In Restricted Working Space, Add	728.44	
		For Owner Furnished Material, Deduct	-28,686.09	
22 11 19 00-0464		Backflow Preventer Accessories (22 11 19 00-0250)		
22 11 19 00-0465		Air Gap (22 11 19 00-0464)		
22 11 19 00-0466	EA	Up To 1" Diameter Air Gap For Backflow Preventer.....	133.30	13.93
22 11 19 00-0467	EA	1-1/4" To 2" Diameter Air Gap For Backflow Preventer.....	164.15	16.71
22 11 19 00-0468	EA	2-1/2" To 3" Diameter Air Gap For Backflow Preventer.....	310.66	22.29
22 11 19 00-0469	EA	4" To 6" Diameter Air Gap For Backflow Preventer.....	615.85	39.00
22 11 19 00-0470	EA	8" To 10" Diameter Air Gap For Backflow Preventer.....	649.28	55.71
22 11 19 00-0471		Brass Test Cocks (22 11 19 00-0464)		
22 11 19 00-0472	EA	1/8" Or 1/4" Brass Test Cock.....	54.28	5.57
22 11 19 00-0473		Backflow Valve Enclosures (22 11 19 00-0250)		
22 11 19 00-0474		Flip-Top, Insulated Fiberglass Valve Enclosures (22 11 19 00-0473)		
		Note: Dimensions listed are inside dimensions. Includes anchor kit. Excludes concrete pad.		
22 11 19 00-0475	EA	19" Length x 11" Width x 22" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	1,370.00	100.27
		For Heated Enclosure, Add	167.90	
22 11 19 00-0476	EA	27" Length x 13" Width x 23" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	1,683.19	100.27
		For Heated Enclosure, Add	214.88	
22 11 19 00-0477	EA	27" Length x 13" Width x 35" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	2,131.78	92.34
		For Heated Enclosure, Add	285.14	
22 11 19 00-0478	EA	33" Length x 21" Width x 25" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	2,216.90	123.13
		For Heated Enclosure, Add	286.36	
22 11 19 00-0479	EA	39" Length x 13" Width x 28" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	2,323.11	123.13
		For Heated Enclosure, Add	302.30	
22 11 19 00-0480	EA	47" Length x 13" Width x 28" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	2,737.07	123.13
		For Heated Enclosure, Add	364.39	
22 11 19 00-0481	EA	39" Length x 13" Width x 36" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	2,747.96	123.13
		For Heated Enclosure, Add	366.02	
22 11 19 00-0482	EA	47" Length x 13" Width x 36" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	3,453.31	123.13
		For Heated Enclosure, Add	471.83	
22 11 19 00-0483	EA	70" Length x 26" Width x 45" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	7,948.29	184.68
		For Heated Enclosure, Add	1,122.99	
22 11 19 00-0484	EA	83" Length x 26" Width x 45" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	11,507.75	184.68
		For Heated Enclosure, Add	1,656.90	
22 11 19 00-0485	EA	70" Length x 26" Width x 55" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	10,935.84	184.68
		For Heated Enclosure, Add	1,571.12	
22 11 19 00-0486	EA	83" Length x 26" Width x 55" Height, Flip-Top, Insulated Fiberglass Valve Enclosure.....	13,166.99	215.47
		For Heated Enclosure, Add	1,894.25	
22 11 19 00-0487		One-Piece Drop Over, Insulated Fiberglass Valve Enclosures (22 11 19 00-0473)		
		Note: Dimensions listed are inside dimensions. Includes anchor kit. Excludes concrete pad.		
22 11 19 00-0488	EA	20" Length x 6-1/2" Width x 22" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	725.41	26.74
		For Heated Enclosure, Add	136.17	
22 11 19 00-0489	EA	27" Length x 14" Width x 26" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	1,014.09	26.74
		For Heated Enclosure, Add	193.90	
22 11 19 00-0490	EA	38-1/2" Length x 12" Width x 28" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	1,277.45	24.63
		For Heated Enclosure, Add	247.28	
22 11 19 00-0491	EA	47" Length x 13" Width x 28" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure.....	1,936.51	24.63
		For Heated Enclosure, Add	379.09	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0492	EA	70" Length x 26" Width x 45" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure..... <i>For Heated Enclosure, Add</i>	5,022.62 989.13	46.17
22 11 19 00-0493	EA	83" Length x 26" Width x 45" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure..... <i>For Heated Enclosure, Add</i>	6,866.35 1,357.88	46.17
22 11 19 00-0494	EA	45" Length x 35" Width x 35" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure..... <i>For Heated Enclosure, Add</i>	4,565.09 897.63	46.17
22 11 19 00-0495	EA	53" Length x 44" Width x 44" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure..... <i>For Heated Enclosure, Add</i>	5,169.68 7,018.54	46.17
22 11 19 00-0496	EA	61" Length x 52" Width x 50" Height, One-Piece Drop Over, Insulated Fiberglass Valve Enclosure..... <i>For Heated Enclosure, Add</i>	8,102.76 1,605.16	46.17
22 11 19 00-0497		Lift-Off Lightweight Backflow Valve Enclosures With Recessed Locksheild Brackets (22 11 19 00-0473) Note: 1-1/2", 0.095" wall tubular steel framework with 1" x 1" x 1/8" angle iron, 1/2" #13 gauge diamond pattern rolled expanded metal, all welded construction. Excludes concrete pad.		
22 11 19 00-0498	EA	22" Length x 10" Width x 24" Height, Backflow Preventer Caged Enclosures..... Note: BP-1	874.82	100.27
22 11 19 00-0499	EA	30" Length x 10" Width x 24" Height, Backflow Preventer Caged Enclosures..... Note: BP-2	980.70	123.13
22 11 19 00-0500	EA	40" Length x 10" Width x 24" Height, Backflow Preventer Caged Enclosures..... Note: BP-3	1,058.71	123.13
22 11 19 00-0501	EA	46" Length x 10" Width x 30" Height, Backflow Preventer Caged Enclosures..... Note: BP-4	1,281.06	123.13
22 11 19 00-0502		Sectional, Insulated Aluminum Valve Enclosures (22 11 19 00-0473) Note: Dimensions listed are inside dimensions. Includes anchor kit. Excludes concrete pad.		
22 11 19 00-0503	EA	70" Length x 26" Width x 55" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	10,298.57 1,475.53 826.65 1,479.27	184.68
22 11 19 00-0504	EA	83" Length x 26" Width x 55" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	11,352.52 1,633.62 826.65 1,479.27	184.68
22 11 19 00-0505	EA	53" Length x 33" Width x 44" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	8,076.29 1,142.19 826.65 1,479.27	184.68
22 11 19 00-0506	EA	53" Length x 44" Width x 44" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	8,855.18 1,259.02 826.65 1,479.27	184.68
22 11 19 00-0507	EA	90" Length x 32" Width x 50-1/2" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	10,308.14 1,453.88 826.65 1,479.27	246.25
22 11 19 00-0508	EA	102" Length x 32" Width x 50-1/2" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	11,555.45 1,640.97 826.65 1,479.27	246.25
22 11 19 00-0509	EA	90" Length x 32" Width x 57-1/2" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	11,555.45 1,640.97 826.65 1,479.27	246.25
22 11 19 00-0510	EA	102" Length x 32" Width x 57-1/2" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	12,764.63 1,822.35 826.65 1,479.27	246.25
22 11 19 00-0511	EA	62" Length x 39" Width x 46" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	9,588.47 1,357.47 826.65 1,479.27	215.47
22 11 19 00-0512	EA	62" Length x 53" Width x 46" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	11,225.92 1,591.54 826.65 1,479.27	246.25
22 11 19 00-0513	EA	105" Length x 36" Width x 53" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	13,113.22 1,874.64 826.65 1,479.27	246.25
22 11 19 00-0514	EA	125" Length x 36" Width x 53" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	14,393.56 2,060.92 826.65 1,479.27	261.64
22 11 19 00-0515	EA	105" Length x 36" Width x 64" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	14,706.75 2,107.90 826.65 1,479.27	261.64
22 11 19 00-0516	EA	125" Length x 36" Width x 64" Height, Sectional, Insulated Aluminum Valve Enclosure..... <i>For Heated Enclosure, Add</i> <i>For One 24" Fluorescent Light Fixture, Add</i> <i>For Two 24" Fluorescent Light Fixture, Add</i>	16,302.99 2,341.56 826.65 1,479.27	277.04

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0517	EA	105" Length x 36" Width x 80" Height, Sectional, Insulated Aluminum Valve Enclosure	16,926.65	277.04
		For Heated Enclosure, Add	2,435.11	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0518	EA	72" Length x 45" Width x 52" Height, Sectional, Insulated Aluminum Valve Enclosure	12,296.21	246.25
		For Heated Enclosure, Add	1,752.09	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0519	EA	72" Length x 45" Width x 60" Height, Sectional, Insulated Aluminum Valve Enclosure	13,105.05	246.25
		For Heated Enclosure, Add	1,873.41	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0520	EA	72" Length x 65" Width x 52" Height, Sectional, Insulated Aluminum Valve Enclosure	14,826.58	261.64
		For Heated Enclosure, Add	2,125.87	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0521	EA	72" Length x 65" Width x 60" Height, Sectional, Insulated Aluminum Valve Enclosure	17,964.26	277.04
		For Heated Enclosure, Add	2,590.75	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0522	EA	118" Length x 40" Width x 58" Height, Sectional, Insulated Aluminum Valve Enclosure	15,679.34	277.04
		For Heated Enclosure, Add	2,248.01	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0523	EA	142" Length x 40" Width x 58" Height, Sectional, Insulated Aluminum Valve Enclosure	18,836.09	292.42
		For Heated Enclosure, Add	2,715.75	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0524	EA	118" Length x 40" Width x 74" Height, Sectional, Insulated Aluminum Valve Enclosure	18,212.44	292.42
		For Heated Enclosure, Add	2,622.21	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0525	EA	142" Length x 40" Width x 74" Height, Sectional, Insulated Aluminum Valve Enclosure	21,091.39	307.81
		For Heated Enclosure, Add	3,048.28	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0526	EA	142" Length x 42" Width x 65" Height, Sectional, Insulated Aluminum Valve Enclosure	19,498.21	307.81
		For Heated Enclosure, Add	2,809.30	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0527	EA	172" Length x 42" Width x 65" Height, Sectional, Insulated Aluminum Valve Enclosure	22,747.57	323.21
		For Heated Enclosure, Add	3,290.93	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0528	EA	142" Length x 42" Width x 85" Height, Sectional, Insulated Aluminum Valve Enclosure	22,786.04	338.60
		For Heated Enclosure, Add	3,290.93	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0529	EA	172" Length x 42" Width x 85" Height, Sectional, Insulated Aluminum Valve Enclosure	27,004.91	353.98
		For Heated Enclosure, Add	3,917.99	
		For One 24" Fluorescent Light Fixture, Add	826.65	
		For Two 24" Fluorescent Light Fixture, Add	1,479.27	
22 11 19 00-0530		Faucets (Hose Bibbs) (22 11 19)		
22 11 19 00-0531		Bronze Garden Hose Valves (Hose Bibbs), Screwed Ends (22 11 19 00-0530)		
22 11 19 00-0532	EA	1/2", 125 LB Bronze Garden Hose Valves (Hose Bibbs), Screwed Ends	61.63	11.14
22 11 19 00-0533	EA	3/4", 125 LB Bronze Garden Hose Valves (Hose Bibbs), Screwed Ends	71.01	12.26
22 11 19 00-0534	EA	3/4" Screwed Ends Vacuum Breaker (Mueller 108-904NL)	18.62	8.36
22 11 19 00-0535		Chrome Plated Brass Hose Valves, Screwed Ends (22 11 19 00-0530)		
22 11 19 00-0536	EA	3/4" Hose Valve With Screwed Ends (Chicago Faucets #387-CP)	217.51	34.09
22 11 19 00-0537		Antisiphon Freezeless Wall Faucet (Woodford 19CP) (22 11 19 00-0530)		
22 11 19 00-0538	EA	4" Long, 1/2" Antisiphon Freezeless Wall Faucet	134.21	27.86
22 11 19 00-0539	EA	6" Long, 1/2" Antisiphon Freezeless Wall Faucet	145.42	30.86
22 11 19 00-0540	EA	8" Long, 1/2" Antisiphon Freezeless Wall Faucet	153.84	32.64
22 11 19 00-0541	EA	10" Long, 1/2" Antisiphon Freezeless Wall Faucet	162.25	34.99
22 11 19 00-0542	EA	12" Long, 1/2" Antisiphon Freezeless Wall Faucet	170.78	37.10
22 11 19 00-0543		Keyed, Recessed Valve Boxes (22 11 19)		
22 11 19 00-0544	EA	8" x 8" x 4" Painted Steel, Keyed, Recessed Valve Box	350.39	33.24
22 11 19 00-0545	EA	8" x 8" x 6" Painted Steel, Keyed, Recessed Valve Box	390.96	33.24
22 11 19 00-0546	EA	8" x 8" x 8" Painted Steel, Keyed, Recessed Valve Box	451.80	33.24
22 11 19 00-0547	EA	12" x 12" x 4" Painted Steel, Keyed, Recessed Valve Box	433.40	44.32
22 11 19 00-0548	EA	12" x 12" x 6" Painted Steel, Keyed, Recessed Valve Box	494.24	44.32
22 11 19 00-0549	EA	12" x 12" x 8" Painted Steel, Keyed, Recessed Valve Box	512.49	44.32
22 11 19 00-0550	EA	8" x 8" x 4" Stainless Steel, Keyed, Recessed Valve Box	415.29	33.24
22 11 19 00-0551	EA	8" x 8" x 6" Stainless Steel, Keyed, Recessed Valve Box	504.53	33.24
22 11 19 00-0552	EA	8" x 8" x 8" Stainless Steel, Keyed, Recessed Valve Box	583.63	33.24



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 19 00-0553	EA		12" x 12" x 4" Stainless Steel, Keyed, Recessed Valve Box.....	546.97	44.32
22 11 19 00-0554	EA		12" x 12" x 6" Stainless Steel, Keyed, Recessed Valve Box.....	626.07	44.32
22 11 19 00-0555	EA		12" x 12" x 8" Stainless Steel, Keyed, Recessed Valve Box.....	656.49	44.32
22 11 23 Domestic Water Pumps (22 11)					
22 11 23 13 Domestic Water Packaged Booster Pumps (22 11 23)					
Note: Includes motor starter and controls.					
22 11 23 13-0001 Simplex Domestic Water Packaged Booster Pumps And Tank (22 11 23 13)					
22 11 23 13-0002	EA		1 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	15,375.99	328.34
22 11 23 13-0003	EA		1.5 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	15,880.36	441.20
22 11 23 13-0004	EA		2 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	16,495.86	554.06
22 11 23 13-0005	EA		3 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	17,055.79	666.93
22 11 23 13-0006	EA		5 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	18,837.91	779.80
22 11 23 13-0007	EA		7.5 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	20,897.80	892.66
22 11 23 13-0008	EA		10 HP Simplex Domestic Water Packaged Booster Pump And Tank.....	22,291.04	1,005.53
22 11 23 13-0009 Duplex Domestic Water Packaged Booster Pumps And Hydrocumulator (22 11 23 13)					
22 11 23 13-0010	EA		100 GPM Duplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	40,942.67	1,332.49
22 11 23 13-0011	EA		200 GPM Duplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	49,508.97	1,415.77
22 11 23 13-0012	EA		300 GPM Duplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	58,110.68	1,499.05
22 11 23 13-0013 Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator (22 11 23 13)					
22 11 23 13-0014	EA		200 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	54,244.94	1,415.77
22 11 23 13-0015	EA		300 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	67,809.72	1,499.05
22 11 23 13-0016	EA		500 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	84,486.78	1,665.61
22 11 23 13-0017	EA		750 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	107,321.29	1,832.17
22 11 23 13-0018	EA		1,000 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	130,155.83	1,998.73
22 11 23 13-0019	EA		1,750 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	151,711.09	2,248.58
22 11 23 13-0020	EA		2,500 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	173,266.35	2,498.42
22 11 23 13-0021	EA		3,750 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	194,821.63	2,748.25
22 11 23 13-0022	EA		5,000 GPM Triplex Domestic Water Packaged Booster Pumps And Hydrocumulator.....	216,585.10	3,081.38
22 11 23 13-0023 Variable Speed Duplex Domestic Water Pressure Booster Skid (22 11 23 13)					
Note: AB1953 compliant, UL listed and labeled. Includes stainless steel headers with check, isolation, thermal relief valves, and start up support. The standard control package is integrated in a NEMA 1 enclosure and is outfitted with an individual VFD's which are controlled through a HOA and internally programmed PID logic for system control.					
22 11 23 13-0024	EA		40 GPM At 40 To 70 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-1).....	41,639.58	1,506.45
22 11 23 13-0025	EA		40 GPM At 80 To 120 PSI, 80 GPM At 50 To 90 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-2).....	43,583.81	1,506.45
22 11 23 13-0026	EA		80 GPM At 80 PSI, 120 GPM At 40 To 90 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-3).....	46,361.89	1,506.45
22 11 23 13-0027	EA		80 GPM At 130 To 150 PSI, 120 GPM At 100 To 150 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-4).....	50,366.45	1,506.45
22 11 23 13-0028	EA		160 GPM At 40 To 50 PSI, 200 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-5).....	47,448.01	1,600.60
22 11 23 13-0029	EA		160 GPM At 60 To 80 PSI, 200 GPM At 60 To 70 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-6).....	50,943.83	1,600.60
22 11 23 13-0030	EA		160 GPM At 90 To 110 PSI, 200 GPM At 80 To 100 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-7).....	55,691.47	1,600.60
22 11 23 13-0031	EA		160 To 200 GPM At 120 To 150 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-8).....	59,550.37	1,600.60
22 11 23 13-0032	EA		240 To 280 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-9).....	51,873.73	1,694.76
22 11 23 13-0033	EA		280 To 320 GPM At 60 To 70 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-10).....	55,325.21	1,694.76
22 11 23 13-0034	EA		240 To 320 GPM At 90 To 120 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-11).....	63,043.03	1,694.76
22 11 23 13-0035	EA		240 To 320 GPM At 130 To 150 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-12).....	75,996.12	1,694.76
22 11 23 13-0036	EA		360 To 400 GPM At 40 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-13).....	54,839.68	1,694.76
22 11 23 13-0037	EA		360 To 400 GPM At 50 To 80 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-14).....	61,879.87	1,694.76
22 11 23 13-0038	EA		360 To 400 GPM At 90 To 110 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-15).....	77,376.72	1,694.76
22 11 23 13-0039	EA		360 To 400 GPM At 120 To 140 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-16).....	76,929.18	1,694.76
22 11 23 13-0040	EA		440 To 480 GPM At 150 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-17).....	91,826.52	1,883.06
22 11 23 13-0041	EA		440 To 480 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-18).....	62,800.27	1,883.06
22 11 23 13-0042	EA		440 To 480 GPM At 60 To 90 PSI, 520 To 600 GPM At 40 To 80 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-19).....	76,912.30	1,883.06

22 Plumbing**22 10 Plumbing Piping****22 11 Facility Water Distribution**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 11 23 13-0043	EA	440 To 480 GPM At 100 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-20).....	76,466.88	1,883.06
22 11 23 13-0044	EA	440 To 600 GPM At 100 To 120 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-21).....	92,518.93	1,883.06
22 11 23 13-0045	EA	440 To 600 GPM At 130 To 150 PSI, NEMA 1, Variable Speed Duplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV2-22).....	112,153.34	1,883.06
22 11 23 13-0046	EA	60 GPM At 40 To 70 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-1).....	52,853.21	1,506.45
22 11 23 13-0047 Variable Speed Triplex Domestic Water Pressure Booster Skid (22 11 23 13)				
Note: AB1953 compliant, UL listed and labeled. Includes stainless steel headers with check, isolation, thermal relief valves, and start up support. The standard control package is integrated in a NEMA 1 enclosure and is outfitted with an individual VFD's which are controlled through a HOA and internally programmed PID logic for system control.				
22 11 23 13-0048	EA	60 GPM At 80 To 130 PSI, 120 GPM At 50 To 90 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-2).....	52,853.21	1,506.45
22 11 23 13-0049	EA	120 GPM At 100 To 120 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-3).....	59,224.21	1,506.45
22 11 23 13-0050	EA	60 GPM At 140 To 150 PSI, 120 GPM At 130 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-4).....	64,721.25	1,506.45
22 11 23 13-0051	EA	180 GPM At 40 To 90 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-5).....	59,459.60	1,600.60
22 11 23 13-0052	EA	180 GPM At 100 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-6).....	64,918.65	1,600.60
22 11 23 13-0053	EA	240 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-7).....	60,734.64	1,600.60
22 11 23 13-0054	EA	240 GPM At 60 To 80 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-8).....	65,427.40	1,600.60
22 11 23 13-0055	EA	240 GPM At 90 To 110 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-9).....	71,880.72	1,600.60
22 11 23 13-0056	EA	240 GPM At 120 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-10).....	77,230.00	1,600.60
22 11 23 13-0057	EA	300 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-11).....	61,278.23	1,694.76
22 11 23 13-0058	EA	300 GPM At 60 To 70 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-12).....	65,970.98	1,694.76
22 11 23 13-0059	EA	300 GPM At 80 To 100 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-13).....	72,422.20	1,694.76
22 11 23 13-0060	EA	300 GPM At 110 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-14).....	77,771.47	1,694.76
22 11 23 13-0061	EA	360 GPM At 40 To 60 PSI, 420 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-15).....	66,555.73	1,694.76
22 11 23 13-0062	EA	360 GPM At 70 To 80 PSI, 420 GPM At 60 To 70 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-16).....	71,062.72	1,694.76
22 11 23 13-0063	EA	360 GPM At 90 To 130 PSI, 420 GPM At 80 To 120 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-17).....	82,198.24	1,694.76
22 11 23 13-0064	EA	360 GPM At 140 To 150 PSI, 420 GPM At 130 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-18).....	100,369.73	1,694.76
22 11 23 13-0065	EA	480 GPM At 40 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-19).....	67,946.89	1,883.06
22 11 23 13-0066	EA	480 GPM At 50 To 70 PSI, 520 To 600 GPM At 40 To 80 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-20).....	72,455.98	1,883.06
22 11 23 13-0067	EA	480 GPM At 100 To 110 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-21).....	83,591.51	1,883.06
22 11 23 13-0068	EA	480 GPM At 120 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-22).....	101,760.88	1,883.06
22 11 23 13-0069	EA	540 GPM At 40 PSI, 600 GPM At 40 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-23).....	71,725.58	1,883.06
22 11 23 13-0070	EA	540 GPM At 50 To 90 PSI, 600 GPM At 50 To 80 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-24).....	81,845.71	1,883.06
22 11 23 13-0071	EA	540 GPM At 100 To 110 PSI, 600 GPM At 90 To 110 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-25).....	103,829.66	1,883.06
22 11 23 13-0072	EA	540 GPM At 120 To 130 PSI, 600 GPM At 120 To 130 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-26).....	105,959.66	1,883.06
22 11 23 13-0073	EA	540 GPM At 140 To 150 PSI, 600 GPM At 140 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-27).....	131,479.54	1,883.06
22 11 23 13-0074	EA	660 GPM At 40 To 50 PSI, 720 GPM At 40 To 50 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-28).....	81,227.21	2,259.67
22 11 23 13-0075	EA	660 GPM At 60 To 90 PSI, 720,780,840,900 GPM At 60 To 80 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-29).....	97,906.22	2,259.67
22 11 23 13-0076	EA	660, 720, 780 GPM At 100 PSI, 840 To 900 GPM At 90 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-30).....	104,230.78	2,259.67
22 11 23 13-0077	EA	660, 720, 780, 840, 900 GPM At 110 To 120 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-31).....	125,925.53	2,259.67
22 11 23 13-0078	EA	660, 720, 780, 840, 900 GPM At 130 To 150 PSI, NEMA 1, Variable Speed Triplex Domestic Water Pressure Booster Skid (FlowTherm Systems FMV3-32).....	156,283.82	2,259.67

22 11 23 23 Domestic-Water In-Line Pumps (22 11 23)**22 11 23 23-0001 Bronze In-Line Centrifugal Domestic Water Booster Pumps (22 11 23 23)**

Note: ODP motor.

22 11 23 23-0002	EA	1/12 HP, 3/4" To 1-1/2" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PL30B).....	1,108.67	184.68



Plumbing			22
Plumbing Piping			22 10
Facility Water Distribution			22 11

MINOR			TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION			UNIT COST		UNIT COST	
22 11 23 23-0003	EA	1/6 HP, 3/4" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PL36B).....	1,139.76		184.68	
22 11 23 23-0004	EA	1/6 HP, 1" To 1-1/4" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PL45B)	1,194.36		188.28	
22 11 23 23-0005	EA	1/6 HP, 1-1/2" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PL50B)	1,319.81		195.97	
22 11 23 23-0006	EA	1/6 HP, 2" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PL75B).....	2,411.67		203.27	
22 11 23 23-0007	EA	1/6 HP, 2" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G 2AB).....	2,576.80		203.27	
22 11 23 23-0008	EA	1/4 HP, 2-1/2" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G 2-1/2AB)	3,876.07		223.81	
22 11 23 23-0009	EA	1/4 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G LD3 AB)	4,038.10		245.88	
22 11 23 23-0010	EA	1/3 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G HD3 AB)	4,897.37		270.62	
22 11 23 23-0011	EA	1/2 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PDB35S).....	4,988.88		297.72	
22 11 23 23-0012	EA	3/4 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PDB37S).....	5,466.33		326.98	
22 11 23 23-0013	EA	1 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PDB38S).....	7,867.42		359.83	
22 11 23 23-0014	EA	1-1/2 HP, 3" Flanges, Bronze In-Line Centrifugal Domestic Water Booster Pump (B&G PDB40S)	9,074.41		377.28	
22 11 23 23-0015 Cast Iron In-Line Centrifugal Domestic Water Booster Pumps (22 11 23 23)						
Note: ODP motor.						
22 11 23 23-0016	EA	1/12 HP, 3/4" To 1-1/2" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL30)	1,157.08		184.68	
22 11 23 23-0017	EA	1/6 HP, 3/4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL36).....	1,974.41		184.68	
22 11 23 23-0018	EA	1/6 HP, 1" To 1-1/4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL45)	1,981.83		188.28	
22 11 23 23-0019	EA	1/6 HP, 1-1/4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL45).....	2,015.85		192.38	
22 11 23 23-0020	EA	1/6 HP, 1-1/2" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL50).....	2,023.02		195.97	
22 11 23 23-0021	EA	1/6 HP, 2" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PL75).....	2,060.06		203.27	
22 11 23 23-0022	EA	1/4 HP, 2-1/2" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 2-1/2).....	2,525.81		223.81	
22 11 23 23-0023	EA	1/3 HP, 3" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G HD30)	3,264.47		270.52	
22 11 23 23-0024	EA	1/2 HP, 3" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PD35S).....	3,435.33		297.72	
22 11 23 23-0025	EA	3/4 HP, 3" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PD37S).....	4,016.39		326.98	
22 11 23 23-0026	EA	1 HP, 3" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PD38S).....	5,445.99		359.83	
22 11 23 23-0027	EA	1-1/2 HP, 3" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G PD40S).....	6,380.62		377.28	
22 11 23 23-0028	EA	2 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x7, BF)	5,710.18		396.28	
22 11 23 23-0029	EA	3 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x7, BF)	6,135.23		435.60	
22 11 23 23-0030	EA	5 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x7, BF)	6,740.33		461.98	
22 11 23 23-0031	EA	7-1/2 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x9-1/2, BF).....	8,568.80		513.31	
22 11 23 23-0032	EA	10 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x9-1/2, BF).....	9,066.40		616.08	
22 11 23 23-0033	EA	15 HP, 4" Flanges, Cast Iron In-Line Centrifugal Domestic Water Booster Pump (B&G 80, 4x4x9-1/2, BF).....	11,586.20		718.95	
22 12 Facility Potable-Water Storage Tanks (22 10)						
22 12 19 Facility Ground-Mounted, Potable-Water Storage Tanks (22 12)						
22 12 19 00-0001 Steel, Horizontal, Ground-Mounted Water Tanks (22 12 19)						
22 12 19 00-0002	EA	5,000 Gallon, Steel, Horizontal, Ground-Mounted Water Tank.....	42,217.92		9,725.16	
22 12 19 00-0003	EA	10,000 Gallon, Steel, Horizontal, Ground-Mounted Water Tank.....	48,017.22		9,725.16	
22 12 19 00-0004	EA	20,000 Gallon, Steel, Horizontal, Ground-Mounted Water Tank.....	86,720.15		15,007.98	
22 12 19 00-0005	EA	35,000 Gallon, Steel, Horizontal, Ground-Mounted Water Tank.....	111,928.80		19,450.31	
22 12 19 00-0006 Galvanized Steel, Flat Bottom, Vertical Storage Tanks (22 12 19)						
22 12 19 00-0007	EA	5,000 Gallon Galvanized Steel, Flat Bottom, Vertical Storage Tank.....	50,809.47		9,725.16	
22 12 19 00-0008	EA	10,000 Gallon Galvanized Steel, Flat Bottom, Vertical Storage Tank.....	70,999.62		9,725.16	
22 12 19 00-0009	EA	20,000 Gallon Galvanized Steel, Flat Bottom, Vertical Storage Tank.....	105,781.97		15,007.98	
22 12 19 00-0010	EA	35,000 Gallon Galvanized Steel, Flat Bottom, Vertical Storage Tank.....	152,445.31		19,450.31	
22 12 23 Facility Indoor Potable-Water Storage Tanks (22 12)						
22 12 23 13 Facility Steel, Indoor Potable-Water Storage Pressure Tanks (22 12 23)						
22 12 23 13-0001 Insulated Glass Lined Storage Tank (A.O. Smith TJ, TJV And TJH) (22 12 23 13)						
22 12 23 13-0002	EA	80 Gallon ASME Rated Tank, 150PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJ-80A).....	2,646.63		410.42	
22 12 23 13-0003	EA	119 Gallon 150 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-120M)	3,277.41		513.02	
22 12 23 13-0004	EA	140 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-140A).....	6,165.10		564.32	
22 12 23 13-0005	EA	200 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-200A).....	6,820.47		615.63	
22 12 23 13-0006	EA	250 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-250A).....	13,716.78		666.93	
22 12 23 13-0007	EA	350 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-350A).....	11,775.78		718.23	
22 12 23 13-0008	EA	400 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-400A).....	20,354.71		769.53	
22 12 23 13-0009	EA	500 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-500A).....	18,723.68		820.84	
22 12 23 13-0010	EA	750 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-750A).....	20,346.40		872.14	
22 12 23 13-0011	EA	1,000 Gallon ASME Rated Tank, 125 PSI, Jacketed, Insulated, Glass Lined Water Heater Storage Tank (TJV-1000A).....	24,277.57		923.44	
22 12 23 13-0012 Uninsulated Glass Lined Storage Tank (A.O. Smith T) (22 12 23 13)						
22 12 23 13-0013	EA	80 Gallon 150 PSI, Uninsulated, Glass Lined Water Storage Tank (T-80S).....	2,246.95		410.42	
22 12 23 13-0014	EA	120 Gallon 150 PSI, Uninsulated, Glass Lined Water Storage Tank (T-120S)	4,403.14		513.02	

22 Plumbing**22 10 Plumbing Piping****22 12 Facility Potable-Water Storage Tanks**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 12 23 13-0015	EA	140 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-140A)	5,529.44	564.32
22 12 23 13-0016	EA	200 Gallon 150 PSI, Uninsulated, Glass Lined Water Storage Tank (T-200S)	6,859.81	615.63
22 12 23 13-0017	EA	200 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-200A)	5,797.80	615.63
22 12 23 13-0018	EA	250 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-250A)	9,053.05	666.93
22 12 23 13-0019	EA	325 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-325A)	9,798.93	718.23
22 12 23 13-0020	EA	350 Gallon 150 PSI, Uninsulated, Glass Lined Water Storage Tank (T-350S)	9,316.47	718.23
22 12 23 13-0021	EA	350 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-350A)	8,481.91	718.23
22 12 23 13-0022	EA	400 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-400A)	11,670.53	769.53
22 12 23 13-0023	EA	500 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-500A)	12,664.67	820.84
22 12 23 13-0024	EA	750 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-750A)	14,728.03	872.14
22 12 23 13-0025	EA	1,000 Gallon ASME Rated Tank, 125 PSI, Uninsulated, Glass Lined Water Storage Tank (T-1000A)	27,851.08	923.44

22 12 23 26 Facility Plastic, Indoor Potable-Water Storage Non-Pressure Tanks (22 12 23)**22 12 23 26-0001 Horizontal Non-Pressurized Polyethylene Tanks (22 12 23 26)**

Note: Excludes excavation and backfill.

22 12 23 26-0002	EA	100 Gallon Horizontal Non-Pressurized Polyethylene Tank	711.92	230.86
		For Saddle Assembly, Add	799.36	
22 12 23 26-0003	EA	150 Gallon Horizontal Non-Pressurized Polyethylene Tank	834.13	269.34
		For Saddle Assembly, Add	799.36	
22 12 23 26-0004	EA	200 Gallon Horizontal Non-Pressurized Polyethylene Tank	991.78	307.81
		For Saddle Assembly, Add	919.89	
22 12 23 26-0005	EA	300 Gallon Horizontal Non-Pressurized Polyethylene Tank	1,213.24	346.29
		For Saddle Assembly, Add	1,390.20	
22 12 23 26-0006	EA	335 Gallon Horizontal Non-Pressurized Polyethylene Tank	1,460.70	384.77
		For Two Tie Down Bands, Add	455.68	
22 12 23 26-0007	EA	535 Gallon Horizontal Non-Pressurized Polyethylene Tank	1,900.26	537.35
		For Two Tie Down Bands, Add	488.76	
22 12 23 26-0008	EA	1,035 Gallon Horizontal Non-Pressurized Polyethylene Tank	2,864.03	626.91
		For Three Tie Down Bands, Add	839.49	
22 12 23 26-0009	EA	1,335 Gallon Horizontal Non-Pressurized Polyethylene Tank	4,157.59	716.46
		For Three Tie Down Bands, Add	846.58	
22 12 23 26-0010	EA	1,635 Gallon Horizontal Non-Pressurized Polyethylene Tank	5,201.07	806.02
		For Four Tie Down Bands, Add	1,147.69	
22 12 23 26-0011	EA	2,035 Gallon Horizontal Non-Pressurized Polyethylene Tank	6,099.10	895.57
		For Four Tie Down Bands, Add	1,629.81	
22 12 23 26-0012	EA	2,635 Gallon Horizontal Non-Pressurized Polyethylene Tank	8,758.04	985.13
		For Four Tie Down Bands, Add	2,159.20	
22 12 23 26-0013	EA	3,135 Gallon Horizontal Non-Pressurized Polyethylene Tank	10,153.66	1,074.68
		For Four Tie Down Bands, Add	2,338.82	
22 12 23 26-0014	EA	4,035 Gallon Horizontal Non-Pressurized Polyethylene Tank	14,599.58	1,432.92
		For Four Tie Down Bands, Add	2,650.78	
22 12 23 26-0015	EA	5,025 Gallon Horizontal Non-Pressurized Polyethylene Tank	18,943.20	1,432.92
		For Five Tie Down Bands, Add	4,176.09	

22 12 23 26-0016 Vertical Non-Pressurized Polyethylene Tanks (22 12 23 26)

22 12 23 26-0017	EA	100 Gallon Vertical Non-Pressurized Polyethylene Tank	767.26	307.81
22 12 23 26-0018	EA	160 Gallon Vertical Non-Pressurized Polyethylene Tank	932.35	327.06
22 12 23 26-0019	EA	210 Gallon Vertical Non-Pressurized Polyethylene Tank	1,026.54	346.29
22 12 23 26-0020	EA	300 Gallon Vertical Non-Pressurized Polyethylene Tank	1,250.36	384.77
22 12 23 26-0021	EA	405 Gallon Vertical Non-Pressurized Polyethylene Tank	1,421.51	461.72
22 12 23 26-0022	EA	500 Gallon Vertical Non-Pressurized Polyethylene Tank	1,680.09	538.68
22 12 23 26-0023	EA	800 Gallon Vertical Non-Pressurized Polyethylene Tank	2,382.71	716.46
22 12 23 26-0024	EA	1,000 Gallon Vertical Non-Pressurized Polyethylene Tank	3,089.48	895.57
22 12 23 26-0025	EA	2,000 Gallon Vertical Non-Pressurized Polyethylene Tank	4,169.66	1,074.68
22 12 23 26-0026	EA	3,000 Gallon Vertical Non-Pressurized Polyethylene Tank	5,471.98	1,253.80
22 12 23 26-0027	EA	4,000 Gallon Vertical Non-Pressurized Polyethylene Tank	8,104.88	1,432.92
22 12 23 26-0028	EA	5,000 Gallon Vertical Non-Pressurized Polyethylene Tank	11,016.65	1,612.03
22 12 23 26-0029	EA	6,250 Gallon Vertical Non-Pressurized Polyethylene Tank	12,493.86	1,791.15
22 12 23 26-0030	EA	7,000 Gallon Vertical Non-Pressurized Polyethylene Tank	13,767.82	1,970.26
22 12 23 26-0031	EA	8,000 Gallon Vertical Non-Pressurized Polyethylene Tank	15,878.41	2,149.38
22 12 23 26-0032	EA	9,150 Gallon Vertical Non-Pressurized Polyethylene Tank	17,948.83	2,328.50
22 12 23 26-0033	EA	10,500 Gallon Vertical Non-Pressurized Polyethylene Tank	22,264.44	2,507.60
22 12 23 26-0034	EA	12,500 Gallon Vertical Non-Pressurized Polyethylene Tank	26,807.04	2,865.83

22 13 Facility Sanitary Sewerage (22 10)**22 13 13 Facility Sanitary Sewers (22 13)****22 13 13 00-0001 Fixture Rough-In (22 13 13)**

Note: Excludes fixture. Not for use when individual component details are available, on remodeling work where partial pipe and fittings are installed or on residential projects. For use on commercial restrooms with multiple toilets, urinals and lavatories. Includes waste and vent pipe and fittings and domestic water supply pipe and fittings. Waste piping is included from fixture outlet tee to floor, vent piping is included from outlet tee within the wall to the ceiling and domestic water supply from ceiling to fixture and stub out with caps. Based on vertical floor to floor of 12'. Use detailed tasks (i.e. individual pipe and fittings, insulation, hangers, etc.) instead of rough-in assembly where possible.

22 13 13 00-0002 Single Fixture Rough-In, Cast Iron Waste And Vent Pipe (22 13 13 00-0001)

Note: Single fixtures have one fixture to one pipe riser. Includes cast iron waste and vent pipe and fittings and copper domestic water supply pipe and fittings.



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 13 00-0003	EA	Floor Mounted Water Closet, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	1,171.73	
22 13 13 00-0004	EA	Wall Mounted Water Closet, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	1,631.83	
22 13 13 00-0005	EA	Tank Type Floor Mounted Water Closet, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	1,052.70	
22 13 13 00-0006	EA	Wall Mounted Urinal, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	697.11	
22 13 13 00-0007	EA	Wall Mounted Lavatory, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	822.95	
22 13 13 00-0008	EA	Countertop Kitchen Sink, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,029.82	
22 13 13 00-0009	EA	Bathtub, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,112.32	
22 13 13 00-0010	EA	Free Standing Water Cooler, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	669.29	
22 13 13 00-0011	EA	Floor Mounted Service Sink, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,052.70	
22 13 13 00-0012	EA	Wall Mounted Service Sink, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	1,072.00	
22 13 13 00-0013	EA	Shower, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	1,020.68	
22 13 13 00-0014	EA	Bidet, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,171.73	
22 13 13 00-0015	EA	Floor Mounted Circular Wash Fountain, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	1,843.77	
22 13 13 00-0016	EA	Bathtub/Shower, Single Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	1,138.00	
22 13 13 00-0017		Double Fixture Rough-In, Cast Iron Waste And Vent Pipe (22 13 13 00-0001) Note: Double fixtures have two "back-to-back" waste connections to one riser. Includes cast iron waste and vent pipe and fittings and copper domestic water supply pipe and fittings.		
22 13 13 00-0018	EA	Floor Mounted Water Closet, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	1,553.02	
22 13 13 00-0019	EA	Wall Mounted Water Closet, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	2,186.74	
22 13 13 00-0020	EA	Tank Type Floor Mounted Water Closet, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	1,338.46	
22 13 13 00-0021	EA	Wall Mounted Urinal, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	850.23	
22 13 13 00-0022	EA	Wall Mounted Lavatory, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	1,113.67	
22 13 13 00-0023	EA	Countertop Kitchen Sink, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,184.77	
22 13 13 00-0024	EA	Free Standing Water Cooler, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	797.54	
22 13 13 00-0025	EA	Floor Mounted Service Sink, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	1,348.70	
22 13 13 00-0026	EA	Wall Mounted Service Sink, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	1,138.71	
22 13 13 00-0027	EA	Shower, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, shower heads and faucets.	1,113.09	
22 13 13 00-0028	EA	Bidet, Double Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucets.	1,553.02	
22 13 13 00-0029		Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe (22 13 13 00-0001) Note: Gang fixtures include multiple fixtures to one pipe riser. Includes cast iron waste and vent pipe and fittings and copper domestic water supply pipe and fittings.		
22 13 13 00-0030	EA	Floor Mounted Water Closet, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	776.04	
22 13 13 00-0031	EA	Wall Mounted Water Closet, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste pipe and vent and copper domestic supply. Excludes fixture, carrier and flush valve.	1,093.37	
22 13 13 00-0032	EA	Tank Type Floor Mounted Water Closet, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste pipe and vent and copper domestic supply. Excludes fixture.	669.74	
22 13 13 00-0033	EA	Wall Mounted Urinal, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste pipe and vent and copper domestic supply. Excludes fixture, carrier and flush valve.	425.64	
22 13 13 00-0034	EA	Wall Mounted Lavatory, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	556.85	
22 13 13 00-0035	EA	Countertop Kitchen Sink, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	592.37	
22 13 13 00-0036	EA	Free Standing Water Cooler, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture.	424.41	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 13 00-0037	EA	Rough-in Service Sink, Floor Mounted, Gang Mounted Fixture Including Cast Iron Waste Pipe And Vent And Copper Domestic Supply, Not Including Fixture Or Faucet Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	673.85	
22 13 13 00-0038	EA	Wall Mounted Service Sink, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	569.35	
22 13 13 00-0039	EA	Shower, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture, shower heads and faucets.	557.03	
22 13 13 00-0040	EA	Bidet, Gang Fixture Rough-In, Cast Iron Waste And Vent Pipe Note: Includes cast iron waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	768.83	
22 13 13 00-0041		Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe (22 13 13 00-0001) Note: Single fixtures have one fixture to one pipe riser. Includes PVC waste and vent pipe and fittings and copper domestic water supply pipe and fittings.		
22 13 13 00-0042	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Floor Mounted, Water Closet Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	655.26	
22 13 13 00-0043	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Wall Mounted, Water Closet Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	777.01	
22 13 13 00-0044	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Tank Type, Floor Mounted, Water Closet Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture.	612.58	
22 13 13 00-0045	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Wall Mounted, Urinal Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	379.24	
22 13 13 00-0046	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Wall Mounted, Lavatory Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	445.45	
22 13 13 00-0047	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Countertop, Kitchen Sink Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	591.13	
22 13 13 00-0048	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Bathtub Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	610.00	
22 13 13 00-0049	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Free Standing, Water Cooler Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture.	371.98	
22 13 13 00-0050	EA	Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe, Floor Mounted, Service Sink Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	612.58	
22 13 13 00-0051	EA	Wall Mounted Service Sink, Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	643.42	
22 13 13 00-0052	EA	Shower, Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	598.42	
22 13 13 00-0053	EA	Bidet, Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	655.13	
22 13 13 00-0054	EA	Floor Mounted Circular Wash Fountain, Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture.	1,017.27	
22 13 13 00-0055	EA	Bathtub/Shower, Single Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	632.44	
22 13 13 00-0056		Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe (22 13 13 00-0001) Note: Double fixtures have two "back-to-back" waste connections to one riser. Includes PVC waste and vent pipe and fittings and copper domestic water supply pipe and fittings.		
22 13 13 00-0057	EA	Floor Mounted Water Closet, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	817.93	
22 13 13 00-0058	EA	Wall Mounted Water Closet, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	1,021.43	
22 13 13 00-0059	EA	Tank Type Floor Mounted Water Closet, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixtures.	709.25	
22 13 13 00-0060	EA	Wall Mounted Urinal, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	433.97	
22 13 13 00-0061	EA	Wall Mounted Lavatory, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixtures, carrier and faucets.	615.69	
22 13 13 00-0062	EA	Countertop Kitchen Sink, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixtures and faucets.	646.50	
22 13 13 00-0063	EA	Free Standing Water Cooler, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixtures.	417.81	
22 13 13 00-0064	EA	Floor Mounted Service Sink, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	718.37	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 13 00-0065	EA		Wall Mounted Service Sink, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	667.26	
22 13 13 00-0066	EA		Shower, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	644.36	
22 13 13 00-0067	EA		Bidet, Double Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	817.93	
22 13 13 00-0068			Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe (22 13 13 00-0001) Note: Gang fixtures include multiple fixtures to one pipe riser. Includes PVC waste and vent pipe and fittings and copper domestic water supply pipe and fittings.		
22 13 13 00-0069	EA		Floor Mounted Water Closet, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and flush valve.	408.54	
22 13 13 00-0070	EA		Wall Mounted Water Closet, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	510.22	
22 13 13 00-0071	EA		Tank Type Floor Mounted Water Closet, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture.	354.93	
22 13 13 00-0072	EA		Wall Mounted Urinal, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and flush valve.	217.04	
22 13 13 00-0073	EA		Wall Mounted Lavatory, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	307.82	
22 13 13 00-0074	EA		Countertop Kitchen Sink, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	323.00	
22 13 13 00-0075	EA		Free Standing Water Cooler, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture.	208.90	
22 13 13 00-0076	EA		Floor Mounted Service Sink, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	359.09	
22 13 13 00-0077	EA		Wall Mounted Service Sink, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe..... Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, carrier and faucet.	333.67	
22 13 13 00-0078	EA		Shower, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture, shower head and faucet.	322.63	
22 13 13 00-0079	EA		Bidet, Gang Fixture Rough-In, Polyvinyl Chloride (PVC) Waste And Vent Pipe Note: Includes polyvinyl chloride (PVC) waste and vent pipe and copper domestic supply. Excludes fixture and faucet.	401.74	
22 13 16			Sanitary Waste and Vent Piping (22 13)		
22 13 16 00-0001			Cast Iron Soil Pipe Assemblies (22 13 16)		
22 13 16 00-0002			Underground Bell And Spigot Cast Iron Soil Pipe Assemblies (22 13 16 00-0001) Note: Includes fittings and gaskets. Fittings are assumed every 10'. Excludes excavation, backfill and compaction. Not for use where detail is available.		
22 13 16 00-0003	LF		2" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	38.00	6.46
			<i>For Work In Restricted Working Space, Add</i>	4.74	
22 13 16 00-0004	LF		3" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	54.67	9.74
			<i>For Work In Restricted Working Space, Add</i>	6.43	
22 13 16 00-0005	LF		4" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	71.02	12.41
			<i>For Work In Restricted Working Space, Add</i>	8.27	
22 13 16 00-0006	LF		5" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	85.59	15.78
			<i>For Work In Restricted Working Space, Add</i>	8.88	
22 13 16 00-0007	LF		6" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	101.06	17.20
			<i>For Work In Restricted Working Space, Add</i>	9.86	
22 13 16 00-0008	LF		8" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	161.82	24.35
			<i>For Work In Restricted Working Space, Add</i>	13.79	
22 13 16 00-0009	LF		10" Underground Bell And Spigot Cast Iron Soil Pipe Assembly..... Note: Includes all fittings and gaskets. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.	242.08	24.35
			<i>For Work In Restricted Working Space, Add</i>	15.61	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0010	Aboveground No Hub Cast Iron Soil Pipe Assemblies (22 13 16 00-0001)			
	Note: Includes fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
22 13 16 00-0011	LF 1-1/2" Aboveground No Hub Cast Iron Soil Pipe Assembly.....	33.77	6.16	
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	<i>For Work In Restricted Working Space, Add</i>		5.41	
22 13 16 00-0012	LF 2" Aboveground No Hub Cast Iron Soil Pipe Assembly.....	35.67	6.57	
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	<i>For Work In Restricted Working Space, Add</i>		5.81	
22 13 16 00-0013	LF 3" Aboveground No Hub Cast Iron Soil Pipe Assembly.....	46.00	9.54	
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	<i>For Work In Restricted Working Space, Add</i>		7.12	
22 13 16 00-0014	LF 4" Aboveground No Hub Cast Iron Soil Pipe Assembly.....	54.92	12.41	
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	<i>For Work In Restricted Working Space, Add</i>		8.52	
22 13 16 00-0015	LF 5" Aboveground No Hub Cast Iron Soil Pipe Assembly.....	73.62	15.48	
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	<i>For Work In Restricted Working Space, Add</i>		10.51	
22 13 16 00-0016	LF 6" Aboveground No Hub Cast Iron Soil Pipe Assembly.....	83.97	16.90	
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	<i>For Work In Restricted Working Space, Add</i>		11.45	
22 13 16 00-0017	LF 8" Aboveground No Hub Cast Iron Soil Pipe Assembly.....	133.06	24.15	
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.			
	<i>For Work In Restricted Working Space, Add</i>		15.72	
22 13 16 00-0018	LF 10" Aboveground No Hub Cast Iron Soil Pipe Assembly.....	191.44	27.44	
	Note: Includes all fittings, couplings and hangers. Fittings are assumed every 20'. Not for use where detail is available.			
	<i>For Work In Restricted Working Space, Add</i>		18.27	
22 13 16 00-0019	Bell And Spigot Cast Iron Pipe And Fittings (22 13 16)			
	Note: Service weight. ASTM A74 and CISPI 301 (Fitting Requirements).			
22 13 16 00-0020	Bell And Spigot Cast Iron Pipe (22 13 16 00-0019)			
	Note: Excludes excavation, hangers, gaskets, and fittings.			
22 13 16 00-0021	LF 2" Bell And Spigot Cast Iron Pipe.....	27.54	6.46	
	<i>For Extra Heavy Pipe, Add</i>		7.46	
	<i>For Above Ground Cast Iron Pipe Installation, Add</i>		0.49	
	<i>For Work In Restricted Working Space, Add</i>		2.93	
22 13 16 00-0022	LF 3" Bell And Spigot Cast Iron Pipe.....	40.13	9.74	
	<i>For Extra Heavy Pipe, Add</i>		10.70	
	<i>For Above Ground Cast Iron Pipe Installation, Add</i>		0.73	
	<i>For Work In Restricted Working Space, Add</i>		4.40	
22 13 16 00-0023	LF 4" Bell And Spigot Cast Iron Pipe.....	51.76	12.41	
	<i>For Extra Heavy Pipe, Add</i>		13.91	
	<i>For Above Ground Cast Iron Pipe Installation, Add</i>		0.93	
	<i>For Work In Restricted Working Space, Add</i>		5.60	
22 13 16 00-0024	LF 5" Bell And Spigot Cast Iron Pipe.....	70.34	15.78	
	<i>For Extra Heavy Pipe, Add</i>		19.63	
	<i>For Above Ground Cast Iron Pipe Installation, Add</i>		1.18	
	<i>For Work In Restricted Working Space, Add</i>		7.08	
22 13 16 00-0025	LF 6" Bell And Spigot Cast Iron Pipe.....	82.66	17.20	
	<i>For Extra Heavy Pipe, Add</i>		23.90	
	<i>For Above Ground Cast Iron Pipe Installation, Add</i>		1.29	
	<i>For Work In Restricted Working Space, Add</i>		7.73	
22 13 16 00-0026	LF 8" Bell And Spigot Cast Iron Pipe.....	125.05	24.35	
	<i>For Extra Heavy Pipe, Add</i>		37.17	
	<i>For Above Ground Cast Iron Pipe Installation, Add</i>		1.83	
	<i>For Work In Restricted Working Space, Add</i>		10.96	
22 13 16 00-0027	LF 10" Bell And Spigot Cast Iron Pipe.....	188.47	27.44	
	<i>For Extra Heavy Pipe, Add</i>		61.89	
	<i>For Above Ground Cast Iron Pipe Installation, Add</i>		2.06	
	<i>For Work In Restricted Working Space, Add</i>		12.33	
22 13 16 00-0028	LF 12" Bell And Spigot Cast Iron Pipe.....	268.87	36.58	
	<i>For Extra Heavy Pipe, Add</i>		89.91	
	<i>For Above Ground Cast Iron Pipe Installation, Add</i>		2.74	
	<i>For Work In Restricted Working Space, Add</i>		16.44	
22 13 16 00-0029	LF 15" Bell And Spigot Cast Iron Pipe.....	378.64	43.88	
	<i>For Extra Heavy Pipe, Add</i>		131.40	
	<i>For Above Ground Cast Iron Pipe Installation, Add</i>		3.29	
	<i>For Work In Restricted Working Space, Add</i>		19.73	
22 13 16 00-0030	Bell And Spigot Cast Iron Fittings (22 13 16 00-0019)			
22 13 16 00-0031	Bell And Spigot Cast Iron Long Sweeps (22 13 16 00-0030)			



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0032	EA	2" Bell And Spigot Cast Iron Long Sweep.....	109.74	29.44
		For Extra Heavy Fittings, Add	22.96	
		For Above Ground Cast Iron Pipe Installation, Add	2.21	
		For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0033	EA	3" Bell And Spigot Cast Iron Long Sweep.....	188.58	37.04
		For Extra Heavy Fittings, Add	46.59	
		For Above Ground Cast Iron Pipe Installation, Add	2.77	
		For Work In Restricted Working Space, Add	16.64	
22 13 16 00-0034	EA	4" Bell And Spigot Cast Iron Long Sweep.....	251.26	49.25
		For Extra Heavy Fittings, Add	62.10	
		For Above Ground Cast Iron Pipe Installation, Add	3.69	
		For Work In Restricted Working Space, Add	22.15	
22 13 16 00-0035	EA	6" Bell And Spigot Cast Iron Long Sweep.....	398.83	66.77
		For Extra Heavy Fittings, Add	104.56	
		For Above Ground Cast Iron Pipe Installation, Add	5.00	
		For Work In Restricted Working Space, Add	30.02	
22 13 16 00-0036	EA	8" Bell And Spigot Cast Iron Long Sweep.....	794.78	85.71
		For Extra Heavy Fittings, Add	233.21	
		For Above Ground Cast Iron Pipe Installation, Add	6.42	
		For Work In Restricted Working Space, Add	38.54	
22 13 16 00-0037	EA	10" Bell And Spigot Cast Iron Long Sweep.....	1,088.77	105.44
		For Extra Heavy Fittings, Add	325.73	
		For Above Ground Cast Iron Pipe Installation, Add	7.91	
		For Work In Restricted Working Space, Add	47.43	
22 13 16 00-0038	EA	12" Bell And Spigot Cast Iron Long Sweep.....	1,671.64	147.17
		For Extra Heavy Fittings, Add	507.84	
		For Above Ground Cast Iron Pipe Installation, Add	11.03	
		For Work In Restricted Working Space, Add	66.20	
22 13 16 00-0039	EA	15" Bell And Spigot Cast Iron Long Sweep.....	3,113.58	204.93
		For Extra Heavy Fittings, Add	982.22	
		For Above Ground Cast Iron Pipe Installation, Add	15.36	
		For Work In Restricted Working Space, Add	92.17	
22 13 16 00-0040 Bell And Spigot Cast Iron Short Sweeps (22 13 16 00-0030)				
22 13 16 00-0041	EA	2" Bell And Spigot Cast Iron Short Sweep.....	92.42	29.44
		For Extra Heavy Fittings, Add	16.90	
		For Above Ground Cast Iron Pipe Installation, Add	2.21	
		For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0042	EA	3" Bell And Spigot Cast Iron Short Sweep.....	159.51	37.04
		For Extra Heavy Fittings, Add	36.42	
		For Above Ground Cast Iron Pipe Installation, Add	2.77	
		For Work In Restricted Working Space, Add	16.64	
22 13 16 00-0043	EA	4" Bell And Spigot Cast Iron Short Sweep.....	218.57	49.25
		For Extra Heavy Fittings, Add	50.66	
		For Above Ground Cast Iron Pipe Installation, Add	3.69	
		For Work In Restricted Working Space, Add	22.15	
22 13 16 00-0044	EA	5" Bell And Spigot Cast Iron Short Sweep.....	335.34	56.76
		For Extra Heavy Fittings, Add	87.60	
		For Above Ground Cast Iron Pipe Installation, Add	4.25	
		For Work In Restricted Working Space, Add	25.52	
22 13 16 00-0045	EA	6" Bell And Spigot Cast Iron Short Sweep.....	405.06	66.77
		For Extra Heavy Fittings, Add	106.74	
		For Above Ground Cast Iron Pipe Installation, Add	5.00	
		For Work In Restricted Working Space, Add	30.02	
22 13 16 00-0046	EA	8" Bell And Spigot Cast Iron Short Sweep.....	669.49	85.71
		For Extra Heavy Fittings, Add	189.36	
		For Above Ground Cast Iron Pipe Installation, Add	6.42	
		For Work In Restricted Working Space, Add	38.54	
22 13 16 00-0047	EA	10" Bell And Spigot Cast Iron Short Sweep.....	981.87	105.44
		For Extra Heavy Fittings, Add	288.32	
		For Above Ground Cast Iron Pipe Installation, Add	7.91	
		For Work In Restricted Working Space, Add	47.43	
22 13 16 00-0048	EA	12" Bell And Spigot Cast Iron Short Sweep.....	1,631.78	147.17
		For Extra Heavy Fittings, Add	493.89	
		For Above Ground Cast Iron Pipe Installation, Add	11.03	
		For Work In Restricted Working Space, Add	66.20	
22 13 16 00-0049 Bell And Spigot Cast Iron 1/4 Bends (22 13 16 00-0030)				
22 13 16 00-0050	EA	2" Bell And Spigot Cast Iron 1/4 Bend.....	82.60	29.34
		For Extra Heavy Fittings, Add	13.50	
		For Above Ground Cast Iron Pipe Installation, Add	2.20	
		For Work In Restricted Working Space, Add	13.21	
22 13 16 00-0051	EA	3" Bell And Spigot Cast Iron 1/4 Bend.....	126.63	33.04
		For Extra Heavy Fittings, Add	26.97	
		For Above Ground Cast Iron Pipe Installation, Add	2.48	
		For Work In Restricted Working Space, Add	14.87	
22 13 16 00-0052	EA	4" Bell And Spigot Cast Iron 1/4 Bend.....	181.65	44.01
		For Extra Heavy Fittings, Add	40.49	
		For Above Ground Cast Iron Pipe Installation, Add	3.30	
		For Work In Restricted Working Space, Add	19.79	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0053	EA		5" Bell And Spigot Cast Iron 1/4 Bend	231.31	50.69
			For Extra Heavy Fittings, Add	54.38	
			For Above Ground Cast Iron Pipe Installation, Add	3.80	
			For Work In Restricted Working Space, Add	22.78	
22 13 16 00-0054	EA		6" Bell And Spigot Cast Iron 1/4 Bend	278.24	60.70
			For Extra Heavy Fittings, Add	65.51	
			For Above Ground Cast Iron Pipe Installation, Add	4.55	
			For Work In Restricted Working Space, Add	27.32	
22 13 16 00-0055	EA		8" Bell And Spigot Cast Iron 1/4 Bend	582.74	78.92
			For Extra Heavy Fittings, Add	162.55	
			For Above Ground Cast Iron Pipe Installation, Add	5.92	
			For Work In Restricted Working Space, Add	35.49	
22 13 16 00-0056	EA		10" Bell And Spigot Cast Iron 1/4 Bend	862.16	95.78
			For Extra Heavy Fittings, Add	251.50	
			For Above Ground Cast Iron Pipe Installation, Add	7.18	
			For Work In Restricted Working Space, Add	43.07	
22 13 16 00-0057	EA		12" Bell And Spigot Cast Iron 1/4 Bend	1,138.44	113.05
			For Extra Heavy Fittings, Add	339.12	
			For Above Ground Cast Iron Pipe Installation, Add	8.48	
			For Work In Restricted Working Space, Add	50.86	
22 13 16 00-0058	EA		15" Bell And Spigot Cast Iron 1/4 Bend	2,924.02	178.31
			For Extra Heavy Fittings, Add	929.86	
			For Above Ground Cast Iron Pipe Installation, Add	13.36	
			For Work In Restricted Working Space, Add	80.19	
22 13 16 00-0059 Bell And Spigot Cast Iron 1/8 Bends (22 13 16 00-0030)					
22 13 16 00-0060	EA		2" Bell And Spigot Cast Iron 1/8 Bend	74.92	29.44
			For Extra Heavy Fittings, Add	10.78	
			For Above Ground Cast Iron Pipe Installation, Add	2.21	
			For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0061	EA		3" Bell And Spigot Cast Iron 1/8 Bend	119.00	37.04
			For Extra Heavy Fittings, Add	22.24	
			For Above Ground Cast Iron Pipe Installation, Add	2.77	
			For Work In Restricted Working Space, Add	16.64	
22 13 16 00-0062	EA		4" Bell And Spigot Cast Iron 1/8 Bend	170.22	49.25
			For Extra Heavy Fittings, Add	33.74	
			For Above Ground Cast Iron Pipe Installation, Add	3.69	
			For Work In Restricted Working Space, Add	22.15	
22 13 16 00-0063	EA		5" Bell And Spigot Cast Iron 1/8 Bend	216.61	63.44
			For Extra Heavy Fittings, Add	42.54	
			For Above Ground Cast Iron Pipe Installation, Add	4.75	
			For Work In Restricted Working Space, Add	28.52	
22 13 16 00-0064	EA		6" Bell And Spigot Cast Iron 1/8 Bend	250.83	70.72
			For Extra Heavy Fittings, Add	50.66	
			For Above Ground Cast Iron Pipe Installation, Add	5.30	
			For Work In Restricted Working Space, Add	31.82	
22 13 16 00-0065	EA		8" Bell And Spigot Cast Iron 1/8 Bend	503.93	94.55
			For Extra Heavy Fittings, Add	126.76	
			For Above Ground Cast Iron Pipe Installation, Add	7.09	
			For Work In Restricted Working Space, Add	42.53	
22 13 16 00-0066	EA		10" Bell And Spigot Cast Iron 1/8 Bend	706.88	116.65
			For Extra Heavy Fittings, Add	186.18	
			For Above Ground Cast Iron Pipe Installation, Add	8.75	
			For Work In Restricted Working Space, Add	52.48	
22 13 16 00-0067	EA		12" Bell And Spigot Cast Iron 1/8 Bend	1,147.20	151.27
			For Extra Heavy Fittings, Add	322.16	
			For Above Ground Cast Iron Pipe Installation, Add	11.34	
			For Work In Restricted Working Space, Add	68.02	
22 13 16 00-0068	EA		15" Bell And Spigot Cast Iron 1/8 Bend	2,213.39	178.31
			For Extra Heavy Fittings, Add	681.14	
			For Above Ground Cast Iron Pipe Installation, Add	13.36	
			For Work In Restricted Working Space, Add	80.19	
22 13 16 00-0069 Bell And Spigot Cast Iron Wyes (22 13 16 00-0030)					
22 13 16 00-0070	EA		2" Bell And Spigot Cast Iron Wye	128.28	65.77
			For Extra Heavy Fittings, Add	10.37	
			For Above Ground Cast Iron Pipe Installation, Add	4.93	
			For Work In Restricted Working Space, Add	29.60	
22 13 16 00-0071	EA		3" Bell And Spigot Cast Iron Wye	163.48	72.03
			For Extra Heavy Fittings, Add	19.42	
			For Above Ground Cast Iron Pipe Installation, Add	5.40	
			For Work In Restricted Working Space, Add	32.40	
22 13 16 00-0072	EA		4" Bell And Spigot Cast Iron Wye	215.32	94.40
			For Extra Heavy Fittings, Add	25.84	
			For Above Ground Cast Iron Pipe Installation, Add	7.07	
			For Work In Restricted Working Space, Add	42.45	
22 13 16 00-0073	EA		5" Bell And Spigot Cast Iron Wye	286.74	109.17
			For Extra Heavy Fittings, Add	43.06	
			For Above Ground Cast Iron Pipe Installation, Add	8.19	
			For Work In Restricted Working Space, Add	49.11	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0074	EA		6" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	360.72 58.34 9.70 58.21	129.39
22 13 16 00-0075	EA		8" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	667.62 143.06 12.94 77.66	172.65
22 13 16 00-0076	EA		10" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	942.41 227.07 14.68 88.09	195.88
22 13 16 00-0077	EA		12" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,401.20 365.37 17.87 107.24	238.43
22 13 16 00-0078	EA		15" Bell And Spigot Cast Iron Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	2,188.28 625.53 29.05 120.32	267.51
22 13 16 00-0079 Bell And Spigot Cast Iron Reducing Wyes (22 13 16 00-0030)					
22 13 16 00-0080	EA		3" x 2" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	209.63 37.29 5.16 30.93	68.74
22 13 16 00-0081	EA		4" x 2" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	254.90 44.61 6.37 38.23	84.96
22 13 16 00-0082	EA		4" x 3" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	285.85 54.31 6.53 39.20	87.11
22 13 16 00-0083	EA		6" x 2" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	432.38 90.52 8.69 52.13	115.94
22 13 16 00-0084	EA		6" x 3" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	443.68 93.32 8.85 53.12	118.07
22 13 16 00-0085	EA		6" x 4" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	464.11 96.34 9.44 56.66	125.96
22 13 16 00-0086	EA		8" x 2" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	687.84 167.89 10.41 62.45	138.84
22 13 16 00-0087	EA		8" x 3" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	719.52 177.59 10.61 63.64	141.51
22 13 16 00-0088	EA		8" x 4" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	736.37 179.96 11.11 66.66	148.20
22 13 16 00-0089	EA		8" x 6" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	871.59 218.54 12.36 74.16	164.85
22 13 16 00-0090	EA		10" x 3" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,081.98 297.63 11.58 69.48	154.46
22 13 16 00-0091	EA		10" x 4" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,125.45 309.27 12.09 72.54	161.25
22 13 16 00-0092	EA		10" x 6" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,230.98 337.29 13.36 80.19	178.31
22 13 16 00-0093	EA		10" x 8" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,634.52 472.85 14.18 85.05	189.10
22 13 16 00-0094	EA		12" x 4" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,683.17 489.88 14.18 85.05	189.10

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0095 EA 12" x 6" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,750.62 505.18 15.36 92.17	204.93
22 13 16 00-0096 EA 12" x 8" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	2,059.53 607.99 16.12 96.73	215.10
22 13 16 00-0097 EA 12" x 10" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	2,509.43 762.08 16.60 99.62	221.47
22 13 16 00-0098 EA 15" x 4" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	4,172.77 1,350.89 15.65 93.93	208.83
22 13 16 00-0099 EA 15" x 6" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	4,353.75 1,405.20 16.95 101.67	225.99
22 13 16 00-0100 EA 15" x 8" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	4,442.22 1,431.06 17.67 106.04	235.75
22 13 16 00-0101 EA 15" x 10" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	4,545.29 1,462.96 18.27 109.62	243.77
22 13 16 00-0102 EA 15" x 12" Bell And Spigot Cast Iron Reducing Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	4,658.97 1,495.29 19.34 116.02	257.96
22 13 16 00-0103 Bell And Spigot Cast Iron Combination Wye And 1/8 Bends (22 13 16 00-0030)		
22 13 16 00-0104 EA 2" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	140.96 14.81 4.93 29.60	65.77
22 13 16 00-0105 EA 3" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	171.30 22.16 5.40 32.40	72.03
22 13 16 00-0106 EA 4" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	228.93 30.60 7.07 42.45	94.40
22 13 16 00-0107 EA 5" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	330.09 55.45 8.58 51.50	114.53
22 13 16 00-0108 EA 6" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	413.55 70.22 10.65 63.88	142.05
22 13 16 00-0109 EA 8" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	767.07 170.93 13.94 83.61	185.91
22 13 16 00-0110 EA 10" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,110.50 260.78 18.27 109.62	243.77
22 13 16 00-0111 EA 12" Bell And Spigot Cast Iron Combination Wye And 1/8 Bend..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,490.85 357.37 23.49 140.94	313.35
22 13 16 00-0112 Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bends (22 13 16 00-0030)		
22 13 16 00-0113 EA 3" x 2" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	150.58 16.62 5.16 30.93	68.74
22 13 16 00-0114 EA 4" x 2" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	214.63 30.52 6.37 38.23	84.96
22 13 16 00-0115 EA 4" x 3" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	232.71 35.71 6.53 39.20	87.11



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0116	EA	6" x 2" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	356.17	115.94
		For Extra Heavy Fittings, Add	63.85	
		For Above Ground Cast Iron Pipe Installation, Add	8.69	
		For Work In Restricted Working Space, Add	52.73	
22 13 16 00-0117	EA	6" x 3" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	371.33	118.07
		For Extra Heavy Fittings, Add	68.00	
		For Above Ground Cast Iron Pipe Installation, Add	8.85	
		For Work In Restricted Working Space, Add	53.12	
22 13 16 00-0118	EA	6" x 4" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	393.52	125.96
		For Extra Heavy Fittings, Add	71.63	
		For Above Ground Cast Iron Pipe Installation, Add	9.44	
		For Work In Restricted Working Space, Add	56.66	
22 13 16 00-0119	EA	8" x 2" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	546.29	138.84
		For Extra Heavy Fittings, Add	118.35	
		For Above Ground Cast Iron Pipe Installation, Add	10.41	
		For Work In Restricted Working Space, Add	62.45	
22 13 16 00-0120	EA	8" x 4" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	560.34	148.20
		For Extra Heavy Fittings, Add	118.35	
		For Above Ground Cast Iron Pipe Installation, Add	11.11	
		For Work In Restricted Working Space, Add	66.66	
22 13 16 00-0121	EA	8" x 6" Bell And Spigot Cast Iron Reducing Combination Wye And 1/8 Bend	711.39	164.85
		For Extra Heavy Fittings, Add	162.47	
		For Above Ground Cast Iron Pipe Installation, Add	12.36	
		For Work In Restricted Working Space, Add	74.16	
22 13 16 00-0122		Bell And Spigot Cast Iron Double Wyes (22 13 16 00-0030)		
22 13 16 00-0123	EA	2" Bell And Spigot Cast Iron Double Wye	234.94	78.70
		For Extra Heavy Fittings, Add	40.95	
		For Above Ground Cast Iron Pipe Installation, Add	5.90	
		For Work In Restricted Working Space, Add	35.38	
22 13 16 00-0124	EA	3" Bell And Spigot Cast Iron Double Wye	345.13	99.21
		For Extra Heavy Fittings, Add	68.75	
		For Above Ground Cast Iron Pipe Installation, Add	7.44	
		For Work In Restricted Working Space, Add	44.61	
22 13 16 00-0125	EA	4" Bell And Spigot Cast Iron Double Wye	470.22	125.48
		For Extra Heavy Fittings, Add	98.71	
		For Above Ground Cast Iron Pipe Installation, Add	9.41	
		For Work In Restricted Working Space, Add	56.46	
22 13 16 00-0126	EA	6" Bell And Spigot Cast Iron Double Wye	923.70	198.80
		For Extra Heavy Fittings, Add	218.97	
		For Above Ground Cast Iron Pipe Installation, Add	14.90	
		For Work In Restricted Working Space, Add	89.42	
22 13 16 00-0127	EA	8" Bell And Spigot Cast Iron Double Wye	1,872.68	233.39
		For Extra Heavy Fittings, Add	532.99	
		For Above Ground Cast Iron Pipe Installation, Add	17.49	
		For Work In Restricted Working Space, Add	104.96	
22 13 16 00-0128	EA	10" Bell And Spigot Cast Iron Double Wye	2,489.46	261.14
		For Extra Heavy Fittings, Add	734.28	
		For Above Ground Cast Iron Pipe Installation, Add	19.58	
		For Work In Restricted Working Space, Add	117.45	
22 13 16 00-0129	EA	12" Bell And Spigot Cast Iron Double Wye	1,704.86	313.35
		For Extra Heavy Fittings, Add	432.27	
		For Above Ground Cast Iron Pipe Installation, Add	23.49	
		For Work In Restricted Working Space, Add	140.94	
22 13 16 00-0130	EA	15" Bell And Spigot Cast Iron Double Wye	4,896.64	328.87
		For Extra Heavy Fittings, Add	1,541.16	
		For Above Ground Cast Iron Pipe Installation, Add	24.67	
		For Work In Restricted Working Space, Add	148.00	
22 13 16 00-0131		Bell And Spigot Cast Iron Reducing Double Wyes (22 13 16 00-0030)		
22 13 16 00-0132	EA	3" x 2" Bell And Spigot Cast Iron Reducing Double Wye	208.59	93.06
		For Extra Heavy Fittings, Add	24.16	
		For Above Ground Cast Iron Pipe Installation, Add	6.98	
		For Work In Restricted Working Space, Add	41.87	
22 13 16 00-0133	EA	4" x 2" Bell And Spigot Cast Iron Reducing Double Wye	242.65	106.91
		For Extra Heavy Fittings, Add	28.82	
		For Above Ground Cast Iron Pipe Installation, Add	8.02	
		For Work In Restricted Working Space, Add	48.10	
22 13 16 00-0134	EA	4" x 3" Bell And Spigot Cast Iron Reducing Double Wye	263.59	112.14
		For Extra Heavy Fittings, Add	33.38	
		For Above Ground Cast Iron Pipe Installation, Add	8.41	
		For Work In Restricted Working Space, Add	50.46	
22 13 16 00-0135	EA	6" x 2" Bell And Spigot Cast Iron Reducing Double Wye	349.09	137.90
		For Extra Heavy Fittings, Add	49.83	
		For Above Ground Cast Iron Pipe Installation, Add	10.34	
		For Work In Restricted Working Space, Add	62.02	
22 13 16 00-0136	EA	6" x 3" Bell And Spigot Cast Iron Reducing Double Wye	370.52	143.16
		For Extra Heavy Fittings, Add	54.57	
		For Above Ground Cast Iron Pipe Installation, Add	10.73	
		For Work In Restricted Working Space, Add	64.38	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0137	EA	6" x 4" Bell And Spigot Cast Iron Reducing Double Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	427.64 67.76 11.70 70.21	156.11
22 13 16 00-0138	EA	8" x 4" Bell And Spigot Cast Iron Reducing Double Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	699.43 150.45 13.48 80.87	179.85
22 13 16 00-0139	EA	8" x 6" Bell And Spigot Cast Iron Reducing Double Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	759.08 153.97 15.96 95.75	212.83
22 13 16 00-0140	EA	10" x 4" Bell And Spigot Cast Iron Reducing Double Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	744.95 159.76 14.42 86.54	192.38
22 13 16 00-0141	EA	10" x 6" Bell And Spigot Cast Iron Reducing Double Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	867.91 185.15 16.95 101.67	225.99
22 13 16 00-0142	EA	10" x 8" Bell And Spigot Cast Iron Reducing Double Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,074.71 246.88 18.47 110.80	246.34
22 13 16 00-0143	EA	12" x 6" Bell And Spigot Cast Iron Reducing Double Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,097.67 251.94 18.89 113.35	251.99
22 13 16 00-0144	EA	12" x 8" Bell And Spigot Cast Iron Reducing Double Wye For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,410.92 349.94 20.55 123.33	274.19
22 13 16 00-0145 Bell And Spigot Cast Iron Double Combination Wye And 1/8 Bends (22 13 16 00-0030)				
22 13 16 00-0146	EA	2" Bell And Spigot Cast Iron Double Combination Wye And 1/8 Bend For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	193.00 26.27 5.90 35.38	78.70
22 13 16 00-0147	EA	3" Bell And Spigot Cast Iron Double Combination Wye And 1/8 Bend For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	260.07 35.78 7.89 47.36	105.27
22 13 16 00-0148	EA	4" Bell And Spigot Cast Iron Double Combination Wye And 1/8 Bend For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	341.16 50.34 9.87 59.20	131.64
22 13 16 00-0149	EA	6" Bell And Spigot Cast Iron Double Combination Wye And 1/8 Bend For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	779.06 156.08 16.66 99.94	222.18
22 13 16 00-0150 Bell And Spigot Cast Iron Reducing Double Combination Wye And 1/8 Bends (22 13 16 00-0030)				
22 13 16 00-0151	EA	3" x 2" Bell And Spigot Cast Iron Reducing Double Combination Wye And 1/8 Bend For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	260.14 41.53 7.07 42.45	94.40
22 13 16 00-0152	EA	4" x 2" Bell And Spigot Cast Iron Reducing Double Combination Wye And 1/8 Bend For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	309.81 52.32 8.02 48.10	106.91
22 13 16 00-0153	EA	4" x 3" Bell And Spigot Cast Iron Reducing Double Combination Wye And 1/8 Bend For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	348.04 59.38 8.92 53.51	119.03
22 13 16 00-0154	EA	6" x 4" Bell And Spigot Cast Iron Reducing Double Combination Wye And 1/8 Bend For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	724.56 166.62 12.42 74.55	165.72
22 13 16 00-0155 Bell And Spigot Cast Iron Sanitary Tees (22 13 16 00-0030)				
22 13 16 00-0156	EA	2" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	157.24 20.48 4.94 29.62	65.87
22 13 16 00-0157	EA	3" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	179.43 25.00 5.40 32.40	72.03



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Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0158	EA		4" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	294.92 56.90 8.62 39.71	88.24
22 13 16 00-0159	EA		5" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	440.87 101.29 7.57 45.44	100.97
22 13 16 00-0160	EA		6" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	528.89 121.56 9.08 54.48	121.11
22 13 16 00-0161	EA		8" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,150.95 320.05 71.83 70.96	157.76
22 13 16 00-0162	EA		10" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,736.78 506.91 14.42 86.54	192.38
22 13 16 00-0163	EA		12" Bell And Spigot Cast Iron Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	2,601.26 791.83 16.95 101.67	225.99
22 13 16 00-0164			Bell And Spigot Cast Iron Reducing Sanitary Tees (22 13 16 00-0030)		
22 13 16 00-0165	EA		3" x 2" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	215.17 39.22 5.16 30.93	68.74
22 13 16 00-0166	EA		4" x 2" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	254.95 46.98 6.04 36.21	80.54
22 13 16 00-0167	EA		4" x 3" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	267.88 51.51 6.04 36.21	80.54
22 13 16 00-0168	EA		6" x 2" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	415.13 84.48 8.69 52.13	115.94
22 13 16 00-0169	EA		6" x 3" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	432.60 89.44 8.65 53.12	118.07
22 13 16 00-0170	EA		6" x 4" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	469.65 98.28 9.44 56.66	125.96
22 13 16 00-0171	EA		8" x 4" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	809.65 205.61 11.11 66.66	148.20
22 13 16 00-0172	EA		8" x 6" Bell And Spigot Cast Iron Reducing Sanitary Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,019.99 270.48 12.36 74.16	164.85
22 13 16 00-0173			Bell And Spigot Cast Iron Vent Tees (22 13 16 00-0030)		
22 13 16 00-0174	EA		2" Bell And Spigot Cast Iron Vent Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	132.84 11.96 4.93 29.60	65.77
22 13 16 00-0175	EA		3" Bell And Spigot Cast Iron Vent Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	167.48 20.82 5.40 32.40	72.03
22 13 16 00-0176	EA		4" Bell And Spigot Cast Iron Vent Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	222.09 28.21 7.07 42.45	94.40
22 13 16 00-0177	EA		5" Bell And Spigot Cast Iron Vent Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	291.91 42.09 8.58 51.50	114.53
22 13 16 00-0178	EA		6" Bell And Spigot Cast Iron Vent Tee For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	367.86 54.23 10.65 63.88	142.05

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0179	EA		8" Bell And Spigot Cast Iron Vent Tee..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	639.24 126.19 13.94 83.61	185.91
22 13 16 00-0180			Bell And Spigot Cast Iron Tapped Sanitary Tees (22 13 16 00-0030)		
22 13 16 00-0181	EA		2" Bell And Spigot Cast Iron Tapped Sanitary Tee..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	136.84 13.36 4.93 29.60	65.77
22 13 16 00-0182	EA		3" Bell And Spigot Cast Iron Tapped Sanitary Tee..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	151.17 15.11 5.40 32.40	72.03
22 13 16 00-0183	EA		4" Bell And Spigot Cast Iron Tapped Sanitary Tee..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	194.69 18.62 7.07 42.45	94.40
22 13 16 00-0184			Bell And Spigot Cast Iron Tapped Sanitary Crosses (22 13 16 00-0030)		
22 13 16 00-0185	EA		2" Bell And Spigot Cast Iron Tapped Sanitary Cross..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	139.36 14.25 4.93 29.60	65.77
22 13 16 00-0186	EA		3" Bell And Spigot Cast Iron Tapped Sanitary Cross..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	155.97 16.79 5.40 32.40	72.03
22 13 16 00-0187	EA		4" Bell And Spigot Cast Iron Tapped Sanitary Cross..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	206.76 22.84 7.07 42.45	94.40
22 13 16 00-0188			Bell And Spigot Cast Iron Reducers (22 13 16 00-0030)		
22 13 16 00-0189	EA		3" x 2" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	77.07 7.56 2.77 16.64	37.04
22 13 16 00-0190	EA		4" x 2" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	95.89 7.91 3.66 21.99	48.84
22 13 16 00-0191	EA		4" x 3" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	103.19 10.28 3.69 22.15	49.25
22 13 16 00-0192	EA		6" x 2" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	134.64 14.93 4.60 27.59	61.31
22 13 16 00-0193	EA		6" x 3" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	141.15 16.79 4.66 27.95	62.12
22 13 16 00-0194	EA		6" x 4" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	145.80 17.76 4.75 28.52	63.44
22 13 16 00-0195	EA		8" x 2" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	191.66 32.78 4.90 29.40	65.35
22 13 16 00-0196	EA		8" x 3" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	214.66 33.12 6.00 36.01	80.05
22 13 16 00-0197	EA		8" x 4" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	220.32 34.01 6.16 36.95	82.11
22 13 16 00-0198	EA		8" x 6" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	227.42 34.64 6.42 38.54	85.71
22 13 16 00-0199	EA		10" x 4" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	285.87 49.57 7.21 43.27	96.20
22 13 16 00-0200	EA		10" x 6" Bell And Spigot Cast Iron Reducer..... <i>For Extra Heavy Fittings, Add</i> <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	301.47 52.48 7.58 45.46	101.03



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0201 EA 10" x 8" Bell And Spigot Cast Iron Reducer..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	321.60 57.22 7.91 47.43	105.44
22 13 16 00-0202 EA 12" x 4" Bell And Spigot Cast Iron Reducer..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	402.50 80.93 8.56 51.38	114.28
22 13 16 00-0203 EA 12" x 6" Bell And Spigot Cast Iron Reducer..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	447.82 86.55 10.03 60.16	133.71
22 13 16 00-0204 EA 12" x 8" Bell And Spigot Cast Iron Reducer..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	483.00 89.12 11.42 68.51	152.30
22 13 16 00-0205 EA 12" x 10" Bell And Spigot Cast Iron Reducer..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	527.67 92.63 13.15 78.90	175.43
22 13 16 00-0206 EA 15" x 6" Bell And Spigot Cast Iron Reducer..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	698.92 152.57 13.15 78.90	175.43
22 13 16 00-0207 EA 15" x 8" Bell And Spigot Cast Iron Reducer..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	743.25 160.91 14.18 85.05	189.10
22 13 16 00-0208 EA 15" x 10" Bell And Spigot Cast Iron Reducer..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	773.49 166.08 14.95 89.69	199.37
22 13 16 00-0209 EA 15" x 12" Bell And Spigot Cast Iron Reducer..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	814.56 173.39 15.96 95.75	212.83
22 13 16 00-0210 Bell And Spigot Cast Iron P-Traps (22 13 16 00-0030)		
22 13 16 00-0211 EA 2" Bell And Spigot Cast Iron P-Trap..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	81.08 12.93 2.21 13.24	29.44
22 13 16 00-0212 EA 3" Bell And Spigot Cast Iron P-Trap..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	109.22 18.82 2.77 16.64	37.04
22 13 16 00-0213 EA 4" Bell And Spigot Cast Iron P-Trap..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	149.13 26.36 3.69 22.15	49.25
22 13 16 00-0214 EA 5" Bell And Spigot Cast Iron P-Trap..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	246.52 56.51 4.25 25.52	56.76
22 13 16 00-0215 EA 6" Bell And Spigot Cast Iron P-Trap..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	332.60 81.38 5.00 30.02	66.77
22 13 16 00-0216 EA 8" Bell And Spigot Cast Iron P-Trap..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	749.16 217.25 6.42 38.54	85.71
22 13 16 00-0217 EA 10" Bell And Spigot Cast Iron P-Trap..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	828.69 234.70 7.91 47.43	105.44
22 13 16 00-0218 Bell And Spigot Cast Iron Deep Seal P-Traps (22 13 16 00-0030)		
22 13 16 00-0219 EA 2" Bell And Spigot Cast Iron Deep Seal P-Trap..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	95.12 17.85 2.21 13.24	29.44
22 13 16 00-0220 EA 3" Bell And Spigot Cast Iron Deep Seal P-Trap..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	136.80 28.47 2.77 16.64	37.04
22 13 16 00-0221 EA 4" Bell And Spigot Cast Iron Deep Seal P-Trap..... For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	200.42 44.31 3.69 22.15	49.25

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0222 EA 5" Bell And Spigot Cast Iron Deep Seal P-Trap For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	337.61 84.89 4.75 28.52	63.44
22 13 16 00-0223 EA 6" Bell And Spigot Cast Iron Deep Seal P-Trap For Extra Heavy Fittings, Add For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	357.69 88.06 5.30 31.82	70.72
22 13 16 00-0224 Bell And Spigot Cast Iron Running Traps With Single Vent (22 13 16 00-0030)		
22 13 16 00-0225 EA 3" x 3" Bell And Spigot Cast Iron Running Trap With Single Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	218.36 5.40 32.40	71.10
22 13 16 00-0226 EA 4" x 4" Bell And Spigot Cast Iron Running Trap With Single Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	291.71 7.07 42.45	93.47
22 13 16 00-0227 EA 5" x 4" Bell And Spigot Cast Iron Running Trap With Single Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	405.74 8.33 49.97	110.18
22 13 16 00-0228 EA 6" x 4" Bell And Spigot Cast Iron Running Trap With Single Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	832.72 9.44 56.66	124.85
22 13 16 00-0229 EA 8" x 4" Bell And Spigot Cast Iron Running Trap With Single Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	2,778.35 11.11 66.66	146.55
22 13 16 00-0230 EA 8" x 6" Bell And Spigot Cast Iron Running Trap With Single Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	3,007.44 12.36 74.16	163.51
22 13 16 00-0231 Bell And Spigot Cast Running Traps With Double Vent (22 13 16 00-0030)		
22 13 16 00-0232 EA 3" x 3" Bell And Spigot Cast Iron Running Trap With Double Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	277.64 7.44 44.61	98.20
22 13 16 00-0233 EA 4" x 4" Bell And Spigot Cast Iron Running Trap With Double Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	381.61 9.41 56.46	123.94
22 13 16 00-0234 EA 6" x 4" Bell And Spigot Cast Iron Running Trap With Double Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	925.45 11.70 70.21	154.29
22 13 16 00-0235 EA 6" x 6" Bell And Spigot Cast Iron Running Trap With Double Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	1,072.01 14.15 84.90	186.76
22 13 16 00-0236 EA 8" x 4" Bell And Spigot Cast Iron Running Trap With Double Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	2,988.70 13.48 80.87	177.69
22 13 16 00-0237 EA 8" x 6" Bell And Spigot Cast Iron Running Trap With Double Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	3,276.67 15.96 95.75	210.99
22 13 16 00-0238 EA 10" x 8" Bell And Spigot Cast Iron Running Trap With Double Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	4,364.99 18.47 110.80	243.47
22 13 16 00-0239 EA 12" x 10" Bell And Spigot Cast Iron Running Trap With Double Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	6,052.19 21.32 127.93	281.49
22 13 16 00-0240 EA 15" x 12" Bell And Spigot Cast Iron Running Trap With Double Vent For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	11,823.93 24.68 148.05	325.58
22 13 16 00-0241 Bell And Spigot Cast Iron Scission Joint Fittings (22 13 16 00-0030)		
22 13 16 00-0242 EA 2" Bell And Spigot Cast Iron Scission Joint Fitting For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	175.90 2.20 13.21	
22 13 16 00-0243 EA 3" Bell And Spigot Cast Iron Scission Joint Fitting For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	244.57 2.47 14.84	
22 13 16 00-0244 EA 4" Bell And Spigot Cast Iron Scission Joint Fitting For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	280.83 3.31 19.87	
22 13 16 00-0245 EA 5" Bell And Spigot Cast Iron Scission Joint Fitting For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	347.65 3.85 23.09	
22 13 16 00-0246 EA 6" Bell And Spigot Cast Iron Scission Joint Fitting For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	422.27 4.65 27.89	
22 13 16 00-0247 EA 8" Bell And Spigot Cast Iron Scission Joint Fitting For Above Ground Cast Iron Pipe Installation, Add For Work In Restricted Working Space, Add	810.02 5.87 35.24	
22 13 16 00-0248 Cut And Prepare Existing In-Place Cast Iron Pipe (22 13 16 00-0019)		
Note: For use when connecting pipe to an existing in-place system.		



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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0249	EA		2", Cut And Prepare Existing In-Place Cast Iron Pipe..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	12.26 0.67 3.68	
22 13 16 00-0250	EA		3", Cut And Prepare Existing In-Place Cast Iron Pipe..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	13.38 0.67 4.01	
22 13 16 00-0251	EA		4", Cut And Prepare Existing In-Place Cast Iron Pipe..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	16.71 0.84 5.01	
22 13 16 00-0252	EA		6", Cut And Prepare Existing In-Place Cast Iron Pipe..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	20.05 1.00 6.02	
22 13 16 00-0253	EA		8", Cut And Prepare Existing In-Place Cast Iron Pipe..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	26.74 1.34 8.02	
22 13 16 00-0254	EA		10", Cut And Prepare Existing In-Place Cast Iron Pipe..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	31.20 1.56 9.36	
22 13 16 00-0255	EA		12", Cut And Prepare Existing In-Place Cast Iron Pipe..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	36.77 1.84 11.03	
22 13 16 00-0256	EA		15", Cut And Prepare Existing In-Place Cast Iron Pipe..... <i>For Above Ground Cast Iron Pipe Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	42.34 2.12 12.70	
22 13 16 00-0257			Joint Material (22 13 16 00-0019) Note: Labor costs are included in the installation costs for fittings.		
22 13 16 00-0258	LB		Lead (1 LB/Diameter Inch) Joint Material	7.74	
22 13 16 00-0259	LB		Oakum (1/8 LB/Diameter Inch) Joint Material	15.65	
22 13 16 00-0260	EA		2" Dual Tite Rubber Gasket	3.17	
22 13 16 00-0261	EA		3" Dual Tite Rubber Gasket	4.34	
22 13 16 00-0262	EA		4" Dual Tite Rubber Gasket	5.40	
22 13 16 00-0263	EA		6" Dual Tite Rubber Gasket	8.95	
22 13 16 00-0264	EA		8" Dual Tite Rubber Gasket	19.74	
22 13 16 00-0265	EA		10" Dual Tite Rubber Gasket	30.28	
22 13 16 00-0266	EA		12" Dual Tite Rubber Gasket	38.57	
22 13 16 00-0267	EA		15" Dual Tite Rubber Gasket	45.81	
22 13 16 00-0268			No Hub Cast Iron Soil Pipe And Fittings (22 13 16) Note: Service Weight. Excludes hangers.		
22 13 16 00-0269			No Hub Cast Iron Pipe (22 13 16 00-0268) Note: Excludes couplings.		
22 13 16 00-0270	LF		1-1/2" No Hub Cast Iron Pipe	18.82	6.16
			<i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	0.46 2.77	
22 13 16 00-0271	LF		2" No Hub Cast Iron Pipe	19.98	6.57
			<i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	0.50 2.98	
22 13 16 00-0272	LF		3" No Hub Cast Iron Pipe	28.27	9.54
			<i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	0.72 4.31	
22 13 16 00-0273	LF		4" No Hub Cast Iron Pipe	36.68	12.41
			<i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	0.93 5.60	
22 13 16 00-0274	LF		5" No Hub Cast Iron Pipe	48.33	15.48
			<i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	1.16 6.97	
22 13 16 00-0275	LF		6" No Hub Cast Iron Pipe	56.35	16.90
			<i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	1.26 7.59	
22 13 16 00-0276	LF		8" No Hub Cast Iron Pipe	85.88	24.15
			<i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	1.81 10.84	
22 13 16 00-0277	LF		10" No Hub Cast Iron Pipe	123.58	27.44
			<i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	2.06 12.33	
22 13 16 00-0278			No Hub Cast Iron Fittings (22 13 16 00-0268)		
22 13 16 00-0279			No Hub Cast Iron Long Sweeps (22 13 16 00-0278)		
22 13 16 00-0280	EA		1-1/2" No Hub Cast Iron Long Sweep	67.98	27.91
			<i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	2.09 12.56	
22 13 16 00-0281	EA		2" No Hub Cast Iron Long Sweep	70.42	29.14
			<i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	2.18 13.10	
22 13 16 00-0282	EA		3" No Hub Cast Iron Long Sweep	83.58	33.34
			<i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	2.50 15.02	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0283 EA 4" No Hub Cast Iron Long Sweep	116.17	44.12
For Below Ground Installation, Add	3.31	
For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0284 EA 5" No Hub Cast Iron Long Sweep	168.59	51.09
For Below Ground Installation, Add	3.83	
For Work In Restricted Working Space, Add	22.97	
22 13 16 00-0285 EA 6" No Hub Cast Iron Long Sweep	199.84	60.91
For Below Ground Installation, Add	4.57	
For Work In Restricted Working Space, Add	27.41	
22 13 16 00-0286 EA 8" No Hub Cast Iron Long Sweep	414.00	78.31
For Below Ground Installation, Add	5.87	
For Work In Restricted Working Space, Add	35.24	
22 13 16 00-0287 No Hub Cast Iron Reducing Long Sweeps (22 13 16 00-0278)		
22 13 16 00-0288 EA 3" x 2" No Hub Cast Iron Reducing Long Sweep	111.21	33.34
For Below Ground Installation, Add	2.50	
For Work In Restricted Working Space, Add	15.02	
22 13 16 00-0289 EA 4" x 3" No Hub Cast Iron Reducing Long Sweep	168.81	44.12
For Below Ground Installation, Add	3.31	
For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0290 No Hub Cast Iron Short Sweeps (22 13 16 00-0278)		
22 13 16 00-0291 EA 2" No Hub Cast Iron Short Sweep	64.86	29.14
For Below Ground Installation, Add	2.18	
For Work In Restricted Working Space, Add	13.10	
22 13 16 00-0292 EA 3" No Hub Cast Iron Short Sweep	79.18	33.34
For Below Ground Installation, Add	2.50	
For Work In Restricted Working Space, Add	15.02	
22 13 16 00-0293 EA 4" No Hub Cast Iron Short Sweep	113.86	44.12
For Below Ground Installation, Add	3.31	
For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0294 EA 5" No Hub Cast Iron Short Sweep	169.46	51.09
For Below Ground Installation, Add	3.83	
For Work In Restricted Working Space, Add	22.97	
22 13 16 00-0295 EA 6" No Hub Cast Iron Short Sweep	186.36	60.91
For Below Ground Installation, Add	4.57	
For Work In Restricted Working Space, Add	27.41	
22 13 16 00-0296 EA 8" No Hub Cast Iron Short Sweep	373.25	78.31
For Below Ground Installation, Add	5.87	
For Work In Restricted Working Space, Add	35.24	
22 13 16 00-0297 EA 10" No Hub Cast Iron Short Sweep	614.37	109.66
For Below Ground Installation, Add	8.22	
For Work In Restricted Working Space, Add	49.33	
22 13 16 00-0298 No Hub Cast Iron 1/4 Bends (22 13 16 00-0278)		
22 13 16 00-0299 EA 1-1/2" No Hub Cast Iron 1/4 Bend	58.32	27.91
For Below Ground Installation, Add	2.09	
For Work In Restricted Working Space, Add	12.56	
22 13 16 00-0300 EA 2" No Hub Cast Iron 1/4 Bend	61.04	29.14
For Below Ground Installation, Add	2.18	
For Work In Restricted Working Space, Add	13.10	
22 13 16 00-0301 EA 3" No Hub Cast Iron 1/4 Bend	72.98	33.34
For Below Ground Installation, Add	2.50	
For Work In Restricted Working Space, Add	15.02	
22 13 16 00-0302 EA 4" No Hub Cast Iron 1/4 Bend	100.16	44.12
For Below Ground Installation, Add	3.31	
For Work In Restricted Working Space, Add	19.86	
22 13 16 00-0303 EA 5" No Hub Cast Iron 1/4 Bend	152.44	51.09
For Below Ground Installation, Add	3.83	
For Work In Restricted Working Space, Add	22.97	
22 13 16 00-0304 EA 6" No Hub Cast Iron 1/4 Bend	175.47	60.91
For Below Ground Installation, Add	4.57	
For Work In Restricted Working Space, Add	27.41	
22 13 16 00-0305 EA 8" No Hub Cast Iron 1/4 Bend	341.52	78.31
For Below Ground Installation, Add	5.87	
For Work In Restricted Working Space, Add	35.24	
22 13 16 00-0306 No Hub Cast Iron 1/8 Bends (22 13 16 00-0278)		
22 13 16 00-0307 EA 1-1/2" No Hub Cast Iron 1/8 Bend	54.79	27.91
For Below Ground Installation, Add	2.09	
For Work In Restricted Working Space, Add	12.56	
22 13 16 00-0308 EA 2" No Hub Cast Iron 1/8 Bend	56.86	29.14
For Below Ground Installation, Add	2.18	
For Work In Restricted Working Space, Add	13.10	
22 13 16 00-0309 EA 3" No Hub Cast Iron 1/8 Bend	68.87	33.34
For Below Ground Installation, Add	2.50	
For Work In Restricted Working Space, Add	15.02	
22 13 16 00-0310 EA 4" No Hub Cast Iron 1/8 Bend	90.93	44.12
For Below Ground Installation, Add	3.31	
For Work In Restricted Working Space, Add	19.86	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0311	EA		6" No Hub Cast Iron 1/8 Bend	154.19	65.16
			For Below Ground Installation, Add	4.89	
			For Work In Restricted Working Space, Add	29.32	
22 13 16 00-0312	EA		8" No Hub Cast Iron 1/8 Bend	278.55	85.57
			For Below Ground Installation, Add	6.41	
			For Work In Restricted Working Space, Add	38.48	
22 13 16 00-0313	EA		10" No Hub Cast Iron 1/8 Bend	441.34	105.27
			For Below Ground Installation, Add	7.89	
			For Work In Restricted Working Space, Add	47.36	
22 13 16 00-0314 No Hub Cast Iron Wyes (22 13 16 00-0278)					
22 13 16 00-0315	EA		1-1/2" No Hub Cast Iron Wye	88.70	43.91
			For Below Ground Installation, Add	3.29	
			For Work In Restricted Working Space, Add	19.73	
22 13 16 00-0316	EA		2" No Hub Cast Iron Wye	112.44	59.51
			For Below Ground Installation, Add	4.46	
			For Work In Restricted Working Space, Add	26.77	
22 13 16 00-0317	EA		3" No Hub Cast Iron Wye	129.45	65.16
			For Below Ground Installation, Add	4.89	
			For Work In Restricted Working Space, Add	29.32	
22 13 16 00-0318	EA		4" No Hub Cast Iron Wye	179.75	85.57
			For Below Ground Installation, Add	6.41	
			For Work In Restricted Working Space, Add	38.48	
22 13 16 00-0319	EA		5" No Hub Cast Iron Wye	260.52	99.46
			For Below Ground Installation, Add	7.46	
			For Work In Restricted Working Space, Add	44.73	
22 13 16 00-0320	EA		6" No Hub Cast Iron Wye	309.10	118.07
			For Below Ground Installation, Add	8.85	
			For Work In Restricted Working Space, Add	53.12	
22 13 16 00-0321	EA		8" No Hub Cast Iron Wye	545.16	156.73
			For Below Ground Installation, Add	11.75	
			For Work In Restricted Working Space, Add	70.47	
22 13 16 00-0322	EA		10" No Hub Cast Iron Wye	932.77	174.09
			For Below Ground Installation, Add	13.05	
			For Work In Restricted Working Space, Add	78.30	
22 13 16 00-0323 No Hub Cast Iron Reducing Wyes (22 13 16 00-0278)					
22 13 16 00-0324	EA		3" x 1-1/2" No Hub Cast Iron Reducing Wye	110.17	56.84
			For Below Ground Installation, Add	4.26	
			For Work In Restricted Working Space, Add	25.55	
22 13 16 00-0325	EA		3" x 2" No Hub Cast Iron Reducing Wye	122.74	65.16
			For Below Ground Installation, Add	4.89	
			For Work In Restricted Working Space, Add	29.32	
22 13 16 00-0326	EA		4" x 2" No Hub Cast Iron Reducing Wye	140.02	72.03
			For Below Ground Installation, Add	5.40	
			For Work In Restricted Working Space, Add	32.40	
22 13 16 00-0327	EA		4" x 3" No Hub Cast Iron Reducing Wye	162.91	80.03
			For Below Ground Installation, Add	6.00	
			For Work In Restricted Working Space, Add	36.00	
22 13 16 00-0328	EA		6" x 2" No Hub Cast Iron Reducing Wye	221.86	100.46
			For Below Ground Installation, Add	7.53	
			For Work In Restricted Working Space, Add	45.20	
22 13 16 00-0329	EA		6" x 3" No Hub Cast Iron Reducing Wye	237.65	105.01
			For Below Ground Installation, Add	7.87	
			For Work In Restricted Working Space, Add	47.21	
22 13 16 00-0330	EA		6" x 4" No Hub Cast Iron Reducing Wye	271.86	122.72
			For Below Ground Installation, Add	9.20	
			For Work In Restricted Working Space, Add	55.19	
22 13 16 00-0331	EA		8" x 4" No Hub Cast Iron Reducing Wye	362.38	123.22
			For Below Ground Installation, Add	9.24	
			For Work In Restricted Working Space, Add	55.43	
22 13 16 00-0332	EA		8" x 6" No Hub Cast Iron Reducing Wye	422.38	135.45
			For Below Ground Installation, Add	10.15	
			For Work In Restricted Working Space, Add	60.90	
22 13 16 00-0333	EA		10" x 4" No Hub Cast Iron Reducing Wye	680.94	144.29
			For Below Ground Installation, Add	10.82	
			For Work In Restricted Working Space, Add	64.91	
22 13 16 00-0334	EA		10" x 6" No Hub Cast Iron Reducing Wye	717.67	154.46
			For Below Ground Installation, Add	11.58	
			For Work In Restricted Working Space, Add	69.48	
22 13 16 00-0335	EA		10" x 8" No Hub Cast Iron Reducing Wye	830.99	164.95
			For Below Ground Installation, Add	12.36	
			For Work In Restricted Working Space, Add	74.18	
22 13 16 00-0336 No Hub Cast Iron Combination Wye And 1/8 Bends (22 13 16 00-0278)					
22 13 16 00-0337	EA		1-1/2" No Hub Cast Iron Combination Wye And 1/8 Bend	99.79	51.10
			For Below Ground Installation, Add	3.83	
			For Work In Restricted Working Space, Add	22.97	
22 13 16 00-0338	EA		2" No Hub Cast Iron Combination Wye And 1/8 Bend	113.38	59.51
			For Below Ground Installation, Add	4.46	
			For Work In Restricted Working Space, Add	26.77	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0339 EA 3" No Hub Cast Iron Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	136.52 4.89 29.32	65.16
22 13 16 00-0340 EA 4" No Hub Cast Iron Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	199.73 6.41 38.48	85.57
22 13 16 00-0341 EA 6" No Hub Cast Iron Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	377.25 9.87 59.20	131.64
22 13 16 00-0342 EA 8" No Hub Cast Iron Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	704.67 12.66 75.97	168.88
22 13 16 00-0343 EA 10" No Hub Cast Iron Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	824.48 15.31 91.83	204.18
22 13 16 00-0344 No Hub Cast Iron Reducing Combination Wye And 1/8 Bends (22 13 16 00-0278)		
22 13 16 00-0345 EA 2" x 1-1/2" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	114.53 4.46 26.77	59.51
22 13 16 00-0346 EA 3" x 2" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	126.28 4.89 29.32	65.16
22 13 16 00-0347 EA 4" x 2" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	147.09 5.40 32.40	72.03
22 13 16 00-0348 EA 4" x 3" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	169.76 6.00 36.00	80.03
22 13 16 00-0349 EA 6" x 2" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	242.41 7.53 45.20	100.46
22 13 16 00-0350 EA 6" x 3" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	273.56 7.87 47.21	105.01
22 13 16 00-0351 EA 6" x 4" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	303.30 9.20 55.19	122.72
22 13 16 00-0352 EA 8" x 4" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	421.15 9.24 55.43	123.22
22 13 16 00-0353 EA 8" x 6" No Hub Cast Iron Reducing Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	556.74 10.15 60.90	135.45
22 13 16 00-0354 No Hub Cast Iron Double Wyes (22 13 16 00-0278)		
22 13 16 00-0355 EA 2" No Hub Cast Iron Double Wye For Below Ground Installation, Add For Work In Restricted Working Space, Add	143.30 5.55 33.28	73.98
22 13 16 00-0356 EA 3" No Hub Cast Iron Double Wye For Below Ground Installation, Add For Work In Restricted Working Space, Add	194.72 6.75 40.50	90.09
22 13 16 00-0357 EA 4" No Hub Cast Iron Double Wye For Below Ground Installation, Add For Work In Restricted Working Space, Add	270.52 7.38 44.29	98.50
22 13 16 00-0358 EA 6" No Hub Cast Iron Double Wye For Below Ground Installation, Add For Work In Restricted Working Space, Add	434.79 11.15 66.92	148.83
22 13 16 00-0359 EA 8" No Hub Cast Iron Double Wye For Below Ground Installation, Add For Work In Restricted Working Space, Add	872.38 14.95 89.69	199.37
22 13 16 00-0360 No Hub Cast Iron Reducing Double Wyes (22 13 16 00-0278)		
22 13 16 00-0361 EA 3" x 2" No Hub Cast Iron Double Wye For Below Ground Installation, Add For Work In Restricted Working Space, Add	174.08 6.14 36.86	81.98
22 13 16 00-0362 EA 4" x 2" No Hub Cast Iron Double Wye For Below Ground Installation, Add For Work In Restricted Working Space, Add	210.33 7.08 42.46	94.40
22 13 16 00-0363 EA 4" x 3" No Hub Cast Iron Double Wye For Below Ground Installation, Add For Work In Restricted Working Space, Add	231.89 7.71 46.29	102.91
22 13 16 00-0364 EA 6" x 4" No Hub Cast Iron Double Wye For Below Ground Installation, Add For Work In Restricted Working Space, Add	368.43 9.84 59.02	131.22
22 13 16 00-0365 No Hub Cast Iron Double Combination Wye And 1/8 Bends (22 13 16 00-0278)		
22 13 16 00-0366 EA 2" No Hub Cast Iron Double Combination Wye And 1/8 Bend For Below Ground Installation, Add For Work In Restricted Working Space, Add	190.01 6.66 39.98	88.86



Plumbing			22
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Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0367	EA	3"	No Hub Cast Iron Double Combination Wye And 1/8 Bend <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	235.54 7.38 44.29	98.50
22 13 16 00-0368	EA	4"	No Hub Cast Iron Double Combination Wye And 1/8 Bend <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	363.33 9.77 58.63	130.41
22 13 16 00-0369	EA	6"	No Hub Cast Iron Double Combination Wye And 1/8 Bend <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	497.79 15.09 90.53	201.31
22 13 16 00-0370 No Hub Cast Iron Reducing Double Combination Wye And 1/8 Bends (22 13 16 00-0278)					
22 13 16 00-0371	EA	3" x 2"	No Hub Cast Iron Reducing Double Combination Wye And 1/8 Bend <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	180.48 5.73 34.39	76.44
22 13 16 00-0372	EA	4" x 2"	No Hub Cast Iron Reducing Double Combination Wye And 1/8 Bend <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	239.12 6.66 39.98	88.86
22 13 16 00-0373	EA	4" x 3"	No Hub Cast Iron Reducing Double Combination Wye And 1/8 Bend <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	255.81 7.28 43.66	97.07
22 13 16 00-0374 No Hub Cast Iron Sanitary Tees (22 13 16 00-0278)					
22 13 16 00-0375	EA	1-1/2"	No Hub Cast Iron Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	86.31 3.23 19.36	42.99
22 13 16 00-0376	EA	2"	No Hub Cast Iron Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	113.60 4.46 26.77	59.51
22 13 16 00-0377	EA	3"	No Hub Cast Iron Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	126.85 4.89 29.32	65.16
22 13 16 00-0378	EA	4"	No Hub Cast Iron Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	173.84 6.41 38.48	85.57
22 13 16 00-0379	EA	5"	No Hub Cast Iron Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	261.75 7.46 44.73	99.46
22 13 16 00-0380	EA	6"	No Hub Cast Iron Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	308.23 8.85 53.12	118.07
22 13 16 00-0381	EA	8"	No Hub Cast Iron Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	618.07 11.75 70.47	156.73
22 13 16 00-0382 No Hub Cast Iron Reducing Sanitary Tees (22 13 16 00-0278)					
22 13 16 00-0383	EA	2" x 1-1/2"	No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	97.15 3.64 21.83	48.53
22 13 16 00-0384	EA	3" x 1-1/2"	No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	112.19 4.26 25.55	56.84
22 13 16 00-0385	EA	3" x 2"	No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	116.26 4.46 26.77	59.51
22 13 16 00-0386	EA	3" x 4"	No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	144.17 4.46 26.77	59.51
22 13 16 00-0387	EA	4" x 2"	No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	155.40 6.04 36.21	80.54
22 13 16 00-0388	EA	4" x 3"	No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	162.18 6.04 36.21	80.54
22 13 16 00-0389	EA	5" x 2"	No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	222.20 7.08 42.49	94.49
22 13 16 00-0390	EA	5" x 3"	No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	231.64 7.08 42.49	94.49
22 13 16 00-0391	EA	5" x 4"	No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	232.80 7.08 42.49	94.49
22 13 16 00-0392	EA	6" x 4"	No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	241.38 7.38 44.27	98.44
22 13 16 00-0393	EA	8" x 6"	No Hub Cast Iron Reducing Sanitary Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	483.62 9.91 59.43	132.17
22 13 16 00-0394 No Hub Cast Iron Sanitary Tapped Tees (22 13 16 00-0278)					

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0395	EA		2" x 1-1/2 Or 1-1/4" No Hub Cast Iron Sanitary Tapped Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	68.11 2.18 13.10	29.14
22 13 16 00-0396	EA		3" x 1-1/2 Or 1-1/4" No Hub Cast Iron Sanitary Tapped Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	79.40 2.50 15.02	33.34
22 13 16 00-0397	EA		4" x 1-1/2 Or 1-1/4" No Hub Cast Iron Sanitary Tapped Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	96.19 3.31 19.86	44.12
22 13 16 00-0398			No Hub Cast Iron Cleanout Tees (22 13 16 00-0278)		
22 13 16 00-0399	EA		2" No Hub Cast Iron Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	63.85 2.18 13.10	29.14
22 13 16 00-0400	EA		3" No Hub Cast Iron Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	82.50 2.50 15.02	33.34
22 13 16 00-0401	EA		4" No Hub Cast Iron Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	123.23 3.31 19.86	44.12
22 13 16 00-0402	EA		6" No Hub Cast Iron Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	209.00 4.89 29.32	65.16
22 13 16 00-0403			No Hub Cast Iron Two-Way Cleanout Tees (22 13 16 00-0278)		
22 13 16 00-0404	EA		4" No Hub Cast Iron Single Two-Way Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	291.15 6.41 38.48	85.57
22 13 16 00-0405	EA		4" No Hub Cast Iron Double Two-Way Cleanout Tee <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	346.19 9.75 58.48	130.00
22 13 16 00-0406			No Hub Cast Iron Cleanout Plugs (22 13 16 00-0278)		
22 13 16 00-0407	EA		2" No Hub Cast Iron Cleanout Plug <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	52.24 2.18 13.10	29.14
22 13 16 00-0408	EA		3" No Hub Cast Iron Cleanout Plug <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	63.54 2.50 15.02	33.34
22 13 16 00-0409	EA		4" No Hub Cast Iron Cleanout Plug <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	91.79 3.31 19.86	44.12
22 13 16 00-0410	EA		6" No Hub Cast Iron Cleanout Plug <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	145.53 4.89 29.32	65.16
22 13 16 00-0411	EA		8" No Hub Cast Iron Cleanout Plug <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	193.96 6.41 38.48	85.57
22 13 16 00-0412			No Hub Cast Iron Sanitary Crosses (22 13 16 00-0278)		
22 13 16 00-0413	EA		1-1/2" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	115.65 4.31 25.87	57.46
22 13 16 00-0414	EA		2" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	126.00 4.46 26.77	59.51
22 13 16 00-0415	EA		3" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	155.63 4.89 29.32	65.16
22 13 16 00-0416	EA		4" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	237.08 6.41 38.48	85.57
22 13 16 00-0417	EA		3" x 2" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	166.68 5.73 34.38	76.44
22 13 16 00-0418	EA		4" x 2" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	191.55 5.90 35.40	78.70
22 13 16 00-0419	EA		4" x 3" No Hub Cast Iron Sanitary Cross <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	211.93 6.16 36.95	82.19
22 13 16 00-0420			No Hub Cast Iron Reducers (22 13 16 00-0278)		
22 13 16 00-0421	EA		3" x 2" No Hub Cast Iron Reducer <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	101.55 4.46 26.77	59.51
22 13 16 00-0422	EA		4" x 2" No Hub Cast Iron Reducer <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	139.53 6.04 36.21	80.54



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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0423	EA		4" x 3" No Hub Cast Iron Reducer	140.11	80.54
			For Below Ground Installation, Add	6.04	
			For Work In Restricted Working Space, Add	36.21	
22 13 16 00-0424	EA		5" x 2" No Hub Cast Iron Reducer	169.26	94.49
			For Below Ground Installation, Add	7.08	
			For Work In Restricted Working Space, Add	42.49	
22 13 16 00-0425	EA		5" x 3" No Hub Cast Iron Reducer	173.08	94.49
			For Below Ground Installation, Add	7.08	
			For Work In Restricted Working Space, Add	42.49	
22 13 16 00-0426	EA		5" x 4" No Hub Cast Iron Reducer	174.60	94.49
			For Below Ground Installation, Add	7.08	
			For Work In Restricted Working Space, Add	42.49	
22 13 16 00-0427	EA		6" x 3" No Hub Cast Iron Reducer	205.05	105.01
			For Below Ground Installation, Add	7.87	
			For Work In Restricted Working Space, Add	47.21	
22 13 16 00-0428	EA		6" x 4" No Hub Cast Iron Reducer	205.63	105.01
			For Below Ground Installation, Add	7.87	
			For Work In Restricted Working Space, Add	47.21	
22 13 16 00-0429	EA		6" x 5" No Hub Cast Iron Reducer	207.36	105.01
			For Below Ground Installation, Add	7.87	
			For Work In Restricted Working Space, Add	47.21	
22 13 16 00-0430	EA		8" x 2" No Hub Cast Iron Reducer	282.79	146.24
			For Below Ground Installation, Add	10.96	
			For Work In Restricted Working Space, Add	65.78	
22 13 16 00-0431	EA		8" x 3" No Hub Cast Iron Reducer	287.18	146.24
			For Below Ground Installation, Add	10.96	
			For Work In Restricted Working Space, Add	65.78	
22 13 16 00-0432	EA		8" x 4" No Hub Cast Iron Reducer	294.25	146.24
			For Below Ground Installation, Add	10.96	
			For Work In Restricted Working Space, Add	65.78	
22 13 16 00-0433	EA		8" x 5" No Hub Cast Iron Reducer	301.61	146.24
			For Below Ground Installation, Add	10.96	
			For Work In Restricted Working Space, Add	65.78	
22 13 16 00-0434	EA		8" x 6" No Hub Cast Iron Reducer	302.47	146.24
			For Below Ground Installation, Add	10.96	
			For Work In Restricted Working Space, Add	65.78	
22 13 16 00-0435	EA		10" x 4" No Hub Cast Iron Reducer	367.68	154.26
			For Below Ground Installation, Add	11.56	
			For Work In Restricted Working Space, Add	69.37	
22 13 16 00-0436	EA		10" x 6" No Hub Cast Iron Reducer	394.40	161.04
			For Below Ground Installation, Add	12.08	
			For Work In Restricted Working Space, Add	72.45	
22 13 16 00-0437	EA		10" x 8" No Hub Cast Iron Reducer	445.25	174.81
			For Below Ground Installation, Add	13.10	
			For Work In Restricted Working Space, Add	78.62	
22 13 16 00-0438			No Hub Cast Iron Blind Plugs (22 13 16 00-0278)		
22 13 16 00-0439	EA		1-1/2" No Hub Cast Iron Blind Plug	28.01	13.97
			For Below Ground Installation, Add	1.05	
			For Work In Restricted Working Space, Add	6.28	
22 13 16 00-0440	EA		2" No Hub Cast Iron Blind Plug	28.62	14.57
			For Below Ground Installation, Add	1.09	
			For Work In Restricted Working Space, Add	6.55	
22 13 16 00-0441	EA		3" No Hub Cast Iron Blind Plug	37.07	16.73
			For Below Ground Installation, Add	1.25	
			For Work In Restricted Working Space, Add	7.51	
22 13 16 00-0442	EA		4" No Hub Cast Iron Blind Plug	49.22	22.06
			For Below Ground Installation, Add	1.65	
			For Work In Restricted Working Space, Add	9.92	
22 13 16 00-0443	EA		5" No Hub Cast Iron Blind Plug	68.95	26.01
			For Below Ground Installation, Add	1.95	
			For Work In Restricted Working Space, Add	11.69	
22 13 16 00-0444	EA		6" No Hub Cast Iron Blind Plug	76.02	30.45
			For Below Ground Installation, Add	2.29	
			For Work In Restricted Working Space, Add	13.72	
22 13 16 00-0445	EA		8" No Hub Cast Iron Blind Plug	154.25	39.15
			For Below Ground Installation, Add	2.93	
			For Work In Restricted Working Space, Add	17.61	
22 13 16 00-0446	EA		10" No Hub Cast Iron Blind Plug	200.58	42.14
			For Below Ground Installation, Add	3.16	
			For Work In Restricted Working Space, Add	18.96	
22 13 16 00-0447			No Hub Cast Iron P-Traps (22 13 16 00-0278)		
22 13 16 00-0448	EA		2" No Hub Cast Iron P-Trap	68.68	29.14
			For Below Ground Installation, Add	2.18	
			For Work In Restricted Working Space, Add	13.10	
22 13 16 00-0449	EA		3" No Hub Cast Iron P-Trap	107.09	33.34
			For Below Ground Installation, Add	2.50	
			For Work In Restricted Working Space, Add	15.02	
22 13 16 00-0450	EA		4" No Hub Cast Iron P-Trap	165.28	44.12
			For Below Ground Installation, Add	3.31	
			For Work In Restricted Working Space, Add	19.86	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0451	EA	5" No Hub Cast Iron P-Trap..... <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	303.90 3.86 23.15	51.50
22 13 16 00-0452	EA	6" No Hub Cast Iron P-Trap..... <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	319.02 4.60 27.62	61.41
22 13 16 00-0453 No Hub Cast Iron Deep Seal P-Traps (22 13 16 00-0278)				
22 13 16 00-0454	EA	2" No Hub Cast Iron Deep Seal P-Trap..... <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	115.17 2.77 16.64	37.04
22 13 16 00-0455	EA	3" No Hub Cast Iron Deep Seal P-Trap..... <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	169.09 3.69 22.15	49.25
22 13 16 00-0456	EA	4" No Hub Cast Iron Deep Seal P-Trap..... <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	250.36 4.87 29.24	65.05
22 13 16 00-0457 No Hub Cast Iron Closet Flanges (22 13 16 00-0278)				
22 13 16 00-0458	EA	4" No Hub Cast Iron Closet Flange..... <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	105.85 3.31 19.86	44.12
22 13 16 00-0459	EA	4" x 2-1/2" No Hub Cast Iron Offset Closet Flange..... <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	114.09 3.31 19.86	44.12
22 13 16 00-0460 No Hub Cast Iron Closet Bends (22 13 16 00-0278)				
22 13 16 00-0461	EA	4" x 16" No Hub Cast Iron Closet Bend..... <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	221.46 3.31 19.86	44.12
22 13 16 00-0462 No Hub Cast Iron Threaded Adapter (22 13 16 00-0278)				
22 13 16 00-0463	EA	1-1/4" No Hub Cast Iron Threaded Adapter..... <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	76.95 2.77 16.64	37.04
22 13 16 00-0464	EA	1-1/2" No Hub Cast Iron Threaded Adapter..... <i>For Below Ground Installation, Add</i> <i>For Work In Restricted Working Space, Add</i>	83.59 2.77 16.64	37.04
22 13 16 00-0465 No Hub Couplings (22 13 16 00-0278)				
Note: Includes stainless steel shield/clamps assembly with elastomeric gasket, ASTM C 564. (Femco NH). Labor costs are included in the installation costs for fittings.				
22 13 16 00-0466	EA	1-1/2" No Hub Coupling..... <i>For Medium Duty (Femco MD-2000), Add</i> <i>For Heavy Duty (Femco HD-4000), Add</i>	10.35 1.35 2.79	
22 13 16 00-0467	EA	2" No Hub Coupling..... <i>For Medium Duty (Femco MD-2000), Add</i> <i>For Heavy Duty (Femco HD-4000), Add</i>	10.35 1.35 2.79	
22 13 16 00-0468	EA	3" No Hub Coupling..... <i>For Medium Duty (Femco MD-2000), Add</i> <i>For Heavy Duty (Femco HD-4000), Add</i>	12.29 1.60 3.32	
22 13 16 00-0469	EA	4" No Hub Coupling..... <i>For Medium Duty (Femco MD-2000), Add</i> <i>For Heavy Duty (Femco HD-4000), Add</i>	14.59 1.90 3.94	
22 13 16 00-0470	EA	5" No Hub Coupling..... <i>For Medium Duty (Femco MD-2000), Add</i> <i>For Heavy Duty (Femco HD-4000), Add</i>	33.73 4.38 9.11	
22 13 16 00-0471	EA	6" No Hub Coupling..... <i>For Medium Duty (Femco MD-2000), Add</i> <i>For Heavy Duty (Femco HD-4000), Add</i>	37.07 4.82 10.01	
22 13 16 00-0472	EA	8" No Hub Coupling..... <i>For Medium Duty (Femco MD-2000), Add</i> <i>For Heavy Duty (Femco HD-4000), Add</i>	69.83 9.08 18.85	
22 13 16 00-0473	EA	10" No Hub Coupling..... <i>For Medium Duty (Femco MD-2000), Add</i> <i>For Heavy Duty (Femco HD-4000), Add</i>	96.20 12.51 25.97	
22 13 16 00-0474	EA	2" x 1-1/2" No Hub Reducing Coupling.....	12.29	
22 13 16 00-0475	EA	3" x 2" No Hub Reducing Coupling.....	19.06	
22 13 16 00-0476	EA	4" x 2" No Hub Reducing Coupling.....	26.59	
22 13 16 00-0477	EA	4" x 3" No Hub Reducing Coupling.....	22.65	
22 13 16 00-0478 Cast Iron Mechanical Joint Couplings With Neoprene Gasket And Bolts (22 13 16 00-0278)				
Note: For underground connections. Labor costs are included in the installation costs for fittings. See CSI section 22 13 16 00-0869 for additional FERNCO couplings.				
22 13 16 00-0479	EA	1-1/2" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	47.51	
22 13 16 00-0480	EA	2" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	49.04	
22 13 16 00-0481	EA	3" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	51.49	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0482	EA		4" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	60.07	
22 13 16 00-0483	EA		5" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	113.40	
22 13 16 00-0484	EA		6" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	155.70	
22 13 16 00-0485	EA		8" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	272.78	
22 13 16 00-0486	EA		10" Cast Iron Mechanical Joint Coupling With Neoprene Gasket And Bolts.....	416.84	
22 13 16 00-0487			Cut And Prepare Existing Pipe In-Place (22 13 16 00-0268) Note: For use when connecting pipe to an existing in-place system.		
22 13 16 00-0488	EA		Cut And Prepare 1-1/2" Cast Iron Pipe, No Hub.....	10.02	
			For Work In Restricted Working Space, Add	3.01	
22 13 16 00-0489	EA		Cut And Prepare 2" Cast Iron Pipe, No Hub.....	12.26	
			For Work In Restricted Working Space, Add	3.68	
22 13 16 00-0490	EA		Cut And Prepare 3" Cast Iron Pipe, No Hub.....	13.37	
			For Work In Restricted Working Space, Add	4.01	
22 13 16 00-0491	EA		Cut And Prepare 4" Cast Iron Pipe, No Hub.....	16.71	
			For Work In Restricted Working Space, Add	5.01	
22 13 16 00-0492	EA		Cut And Prepare 6" Cast Iron Pipe, No Hub.....	20.05	
			For Work In Restricted Working Space, Add	6.02	
22 13 16 00-0493	EA		Cut And Prepare 8" Cast Iron Pipe, No Hub.....	26.74	
			For Work In Restricted Working Space, Add	8.02	
22 13 16 00-0494	EA		Cut And Prepare 10" Cast Iron Pipe, No Hub.....	31.20	
			For Work In Restricted Working Space, Add	9.36	
22 13 16 00-0495			Copper Drain-Waste-Vent (DWV) Pipe (22 13 16) See CSI section 22 11 16 00-0436 for copper and brass fittings.		
22 13 16 00-0496	LF		1-1/4" Hard Drawn DWV Copper Tube/Pipe.....	16.45	4.82
22 13 16 00-0497	LF		1-1/2" Hard Drawn DWV Copper Tube/Pipe.....	19.65	5.38
22 13 16 00-0498	LF		2" Hard Drawn DWV Copper Tube/Pipe.....	25.31	6.64
22 13 16 00-0499	LF		3" Hard Drawn DWV Copper Tube/Pipe.....	54.34	9.20
22 13 16 00-0500	LF		4" Hard Drawn DWV Copper Tube/Pipe.....	76.10	10.38
22 13 16 00-0501	LF		5" Hard Drawn DWV Copper Tube/Pipe.....	150.19	11.92
22 13 16 00-0502	LF		6" Hard Drawn DWV Copper Tube/Pipe.....	214.11	18.48
22 13 16 00-0503			Polyvinyl Chloride (PVC) Drain-Waste-Vent (DWV) Pipe And Fittings (22 13 16) Note: Aboveground installation. See CSI section 33 31 11 00-0002 for underground installation.		
22 13 16 00-0504			Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assemblies (22 13 16 00-0503)		
22 13 16 00-0505			Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assemblies (22 13 16 00-0504) Note: Includes all fittings. Fittings are assumed every 20'. Excludes excavation, backfill and compaction. Not for use where detail is available.		
22 13 16 00-0506	LF		1-1/2" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	12.99	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	2.40	
22 13 16 00-0507	LF		2" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	15.65	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	2.92	
22 13 16 00-0508	LF		3" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	26.29	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	4.14	
22 13 16 00-0509	LF		4" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	34.39	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	4.56	
22 13 16 00-0510	LF		6" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	62.82	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	5.87	
22 13 16 00-0511	LF		8" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	90.46	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	7.84	
22 13 16 00-0512	LF		10" Underground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	132.01	
			Note: Includes all fittings and couplings. Fittings are assumed every 20'. Excludes earthwork excavation, backfill and compaction. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	10.46	
22 13 16 00-0513			Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assemblies (22 13 16 00-0504) Note: Includes all hangers and couplings, elbow, tee and reducer fittings. All hangers are complete assemblies installed in accordance with uniform plumbing code. Not for use where detail is available.		
22 13 16 00-0514	LF		1-1/2" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly.....	26.47	4.31
			Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.		
			For Work In Restricted Working Space, Add	4.94	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0515	LF	2" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available. <i>For Work In Restricted Working Space, Add</i>	29.72 5.49	5.13
22 13 16 00-0516	LF	3" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available. <i>For Work In Restricted Working Space, Add</i>	43.14 6.83	7.39
22 13 16 00-0517	LF	4" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available. <i>For Work In Restricted Working Space, Add</i>	54.73 7.45	8.00
22 13 16 00-0518	LF	6" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available. <i>For Work In Restricted Working Space, Add</i>	86.22 9.55	10.26
22 13 16 00-0519	LF	8" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available. <i>For Work In Restricted Working Space, Add</i>	115.22 10.94	13.64
22 13 16 00-0520	LF	10" Aboveground Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe Assembly Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available. <i>For Work In Restricted Working Space, Add</i>	162.22 14.26	18.26
22 13 16 00-0521		Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe (22 13 16 00-0503) Note: Excludes fittings or hangers.		
22 13 16 00-0522		Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe (ASTM D-2665) (22 13 16 00-0521) Note: Excludes fittings or hangers.		
22 13 16 00-0523	LF	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe <i>For Work In Restricted Working Space, Add</i>	10.02 1.92	4.31
22 13 16 00-0524	LF	2" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe <i>For Work In Restricted Working Space, Add</i>	12.42 2.31	5.13
22 13 16 00-0525	LF	3" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe <i>For Work In Restricted Working Space, Add</i>	20.51 3.31	7.39
22 13 16 00-0526	LF	4" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe <i>For Work In Restricted Working Space, Add</i>	25.35 3.59	8.00
22 13 16 00-0527	LF	6" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe <i>For Work In Restricted Working Space, Add</i>	39.00 4.55	10.11
22 13 16 00-0528	LF	8" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe <i>For Work In Restricted Working Space, Add</i>	56.42 6.07	13.45
22 13 16 00-0529	LF	10" Schedule 40 Polyvinyl Chloride (PVC) DWV Pipe <i>For Work In Restricted Working Space, Add</i>	82.41 8.09	18.01
22 13 16 00-0530		Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe (ASTM F-891) (22 13 16 00-0521) Note: Excludes fittings or hangers.		
22 13 16 00-0531	LF	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe <i>For Work In Restricted Working Space, Add</i>	8.94 1.92	4.31
22 13 16 00-0532	LF	2" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe <i>For Work In Restricted Working Space, Add</i>	11.14 2.31	5.13
22 13 16 00-0533	LF	3" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe <i>For Work In Restricted Working Space, Add</i>	18.09 3.31	7.39
22 13 16 00-0534	LF	4" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe <i>For Work In Restricted Working Space, Add</i>	22.14 3.59	8.00
22 13 16 00-0535	LF	6" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe <i>For Work In Restricted Working Space, Add</i>	33.02 4.55	10.11
22 13 16 00-0536	LF	8" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe <i>For Work In Restricted Working Space, Add</i>	48.02 6.07	13.45
22 13 16 00-0537	LF	10" Schedule 40 Polyvinyl Chloride (PVC) DWV "Foam-Core" Pipe <i>For Work In Restricted Working Space, Add</i>	73.27 8.09	18.01
22 13 16 00-0538		Polyvinyl Chloride (PVC) DWV Fittings (ASTM D-2665) (22 13 16 00-0503)		
22 13 16 00-0539		Polyvinyl Chloride (PVC) DWV 1/4 Bends (22 13 16 00-0538)		
22 13 16 00-0540	EA	1-1/2" Polyvinyl Chloride (PVC) DWV 1/4 Bends <i>For Work In Restricted Working Space, Add</i>	33.27 7.70	17.13
22 13 16 00-0541	EA	2" Polyvinyl Chloride (PVC) DWV 1/4 Bends <i>For Work In Restricted Working Space, Add</i>	42.49 9.85	21.86
22 13 16 00-0542	EA	3" Polyvinyl Chloride (PVC) DWV 1/4 Bends <i>For Work In Restricted Working Space, Add</i>	74.13 13.24	29.34
22 13 16 00-0543	EA	4" Polyvinyl Chloride (PVC) DWV 1/4 Bends <i>For Work In Restricted Working Space, Add</i>	114.99 15.39	34.17
22 13 16 00-0544	EA	6" Polyvinyl Chloride (PVC) DWV 1/4 Bends <i>For Work In Restricted Working Space, Add</i>	154.24 20.07	44.43
22 13 16 00-0545	EA	8" Polyvinyl Chloride (PVC) DWV 1/4 Bends <i>For Work In Restricted Working Space, Add</i>	253.61 26.93	59.82
22 13 16 00-0546	EA	10" Polyvinyl Chloride (PVC) DWV 1/4 Bends <i>For Work In Restricted Working Space, Add</i>	394.91 35.91	79.73



Plumbing			22
Plumbing Piping			22 10
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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0547			Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends (22 13 16 00-0538)		
22 13 16 00-0548	EA		1-1/2" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends.....	54.65	17.13
			For Work In Restricted Working Space, Add	7.70	
22 13 16 00-0549	EA		2" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends.....	54.79	21.86
			For Work In Restricted Working Space, Add	9.85	
22 13 16 00-0550	EA		3" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends.....	105.76	29.34
			For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0551	EA		4" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends.....	172.97	34.17
			For Work In Restricted Working Space, Add	15.39	
22 13 16 00-0552	EA		6" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends.....	342.25	44.43
			For Work In Restricted Working Space, Add	20.01	
22 13 16 00-0553	EA		8" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends.....	606.43	59.82
			For Work In Restricted Working Space, Add	26.93	
22 13 16 00-0554	EA		10" Polyvinyl Chloride (PVC) DWV Long Sweep 1/4 Bends.....	992.27	79.73
			For Work In Restricted Working Space, Add	35.91	
22 13 16 00-0555			Polyvinyl Chloride (PVC) DWV 1/8 Bends (22 13 16 00-0538)		
22 13 16 00-0556	EA		1-1/2" Polyvinyl Chloride (PVC) DWV 1/8 Bends.....	35.03	17.13
			For Work In Restricted Working Space, Add	7.70	
22 13 16 00-0557	EA		2" Polyvinyl Chloride (PVC) DWV 1/8 Bends.....	42.35	21.86
			For Work In Restricted Working Space, Add	9.85	
22 13 16 00-0558	EA		3" Polyvinyl Chloride (PVC) DWV 1/8 Bends.....	71.50	29.34
			For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0559	EA		4" Polyvinyl Chloride (PVC) DWV 1/8 Bends.....	102.10	34.17
			For Work In Restricted Working Space, Add	15.39	
22 13 16 00-0560	EA		6" Polyvinyl Chloride (PVC) DWV 1/8 Bends.....	421.44	44.43
			For Work In Restricted Working Space, Add	20.01	
22 13 16 00-0561	EA		8" Polyvinyl Chloride (PVC) DWV 1/8 Bends.....	677.38	59.82
			For Work In Restricted Working Space, Add	26.93	
22 13 16 00-0562	EA		10" Polyvinyl Chloride (PVC) DWV 1/8 Bends.....	770.68	79.73
			For Work In Restricted Working Space, Add	35.91	
22 13 16 00-0563			Polyvinyl Chloride (PVC) DWV Sanitary Tees (22 13 16 00-0538)		
22 13 16 00-0564	EA		1-1/2" Polyvinyl Chloride (PVC) DWV Sanitary Tees.....	52.09	25.66
			For Work In Restricted Working Space, Add	11.54	
22 13 16 00-0565	EA		2" Polyvinyl Chloride (PVC) DWV Sanitary Tees.....	68.72	32.83
			For Work In Restricted Working Space, Add	14.78	
22 13 16 00-0566	EA		3" Polyvinyl Chloride (PVC) DWV Sanitary Tees.....	118.01	44.12
			For Work In Restricted Working Space, Add	19.85	
22 13 16 00-0567	EA		4" Polyvinyl Chloride (PVC) DWV Sanitary Tees.....	175.79	51.30
			For Work In Restricted Working Space, Add	23.09	
22 13 16 00-0568	EA		6" Polyvinyl Chloride (PVC) DWV Sanitary Tees.....	674.87	66.59
			For Work In Restricted Working Space, Add	30.01	
22 13 16 00-0569	EA		8" Polyvinyl Chloride (PVC) DWV Sanitary Tees.....	877.77	89.67
			For Work In Restricted Working Space, Add	40.40	
22 13 16 00-0570			Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees (22 13 16 00-0538)		
22 13 16 00-0571	EA		2" x 1-1/2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees.....	66.67	28.01
			For Work In Restricted Working Space, Add	12.62	
22 13 16 00-0572	EA		2" x 1-1/2" x 2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees.....	79.63	30.37
			For Work In Restricted Working Space, Add	13.70	
22 13 16 00-0573	EA		2" x 2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees.....	65.13	30.37
			For Work In Restricted Working Space, Add	13.70	
22 13 16 00-0574	EA		3" x 3" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees.....	96.62	37.97
			For Work In Restricted Working Space, Add	17.08	
22 13 16 00-0575	EA		3" x 3" x 2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees.....	98.31	40.33
			For Work In Restricted Working Space, Add	18.16	
22 13 16 00-0576	EA		4" x 4" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees.....	117.42	42.68
			For Work In Restricted Working Space, Add	19.24	
22 13 16 00-0577	EA		4" x 4" x 2" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees.....	201.68	45.14
			For Work In Restricted Working Space, Add	20.32	
22 13 16 00-0578	EA		4" x 4" x 3" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees.....	255.49	48.84
			For Work In Restricted Working Space, Add	22.01	
22 13 16 00-0579	EA		6" x 6" x 4" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees.....	648.25	61.46
			For Work In Restricted Working Space, Add	27.70	
22 13 16 00-0580	EA		8" x 8" x 4" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees.....	2,050.49	76.85
			For Work In Restricted Working Space, Add	34.63	
22 13 16 00-0581	EA		8" x 8" x 6" Polyvinyl Chloride (PVC) DWV Reducing Sanitary Tees.....	2,120.59	81.98
			For Work In Restricted Working Space, Add	36.94	
22 13 16 00-0582			Polyvinyl Chloride (PVC) DWV Double Sanitary Tees (22 13 16 00-0538)		
22 13 16 00-0583	EA		1-1/2" Polyvinyl Chloride (PVC) DWV Double Sanitary Tees.....	92.29	34.17
			For Work In Restricted Working Space, Add	15.39	
22 13 16 00-0584	EA		2" Polyvinyl Chloride (PVC) DWV Double Sanitary Tees.....	125.70	43.71
			For Work In Restricted Working Space, Add	19.70	
22 13 16 00-0585	EA		3" Polyvinyl Chloride (PVC) DWV Double Sanitary Tees.....	256.61	58.80
			For Work In Restricted Working Space, Add	26.47	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0586	EA	4" Polyvinyl Chloride (PVC) DWV Double Sanitary Tees..... <i>For Work In Restricted Working Space, Add</i>	373.31 30.78	68.34
22 13 16 00-0587		Polyvinyl Chloride (PVC) DWV Reducing Double Sanitary Tees (22 13 16 00-0538)		
22 13 16 00-0588	EA	2" x 2" x 1-1/2" x 1-1/2 Polyvinyl Chloride (PVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	112.74 17.54	38.99
22 13 16 00-0589	EA	3" x 3" x 1-1/2" x 1-1/2 Polyvinyl Chloride (PVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	197.21 20.93	46.48
22 13 16 00-0590	EA	3" x 3" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	227.97 23.09	51.30
22 13 16 00-0591	EA	4" x 4" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	416.69 25.24	56.03
22 13 16 00-0592	EA	4" x 4" x 3" x 3" Polyvinyl Chloride (PVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	437.11 28.63	63.51
22 13 16 00-0593		Polyvinyl Chloride (PVC) DWV Reducers (22 13 16 00-0538)		
22 13 16 00-0594	EA	2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	44.47 8.77	19.50
22 13 16 00-0595	EA	3" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	83.50 10.47	23.19
22 13 16 00-0596	EA	3" x 2" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	79.17 11.54	25.66
22 13 16 00-0597	EA	4" x 2" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	122.59 12.62	28.01
22 13 16 00-0598	EA	4" x 3" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	131.89 14.31	31.81
22 13 16 00-0599	EA	6" x 3" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	480.72 16.62	36.94
22 13 16 00-0600	EA	6" x 4" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	400.57 17.70	39.30
22 13 16 00-0601	EA	8" x 4" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	1,007.79 21.16	47.00
22 13 16 00-0602	EA	8" x 6" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	849.38 23.47	52.13
22 13 16 00-0603	EA	10" x 6" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	1,142.79 27.96	62.07
22 13 16 00-0604	EA	10" x 8" Polyvinyl Chloride (PVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	892.14 31.42	69.77
22 13 16 00-0605		Polyvinyl Chloride (PVC) DWV P-Traps (22 13 16 00-0538)		
22 13 16 00-0606	EA	1-1/2" Polyvinyl Chloride (PVC) DWV P-Traps..... <i>For Work In Restricted Working Space, Add</i>	65.12 11.54	25.66
22 13 16 00-0607	EA	2" Polyvinyl Chloride (PVC) DWV P-Traps..... <i>For Work In Restricted Working Space, Add</i>	85.56 14.78	32.83
22 13 16 00-0608	EA	3" Polyvinyl Chloride (PVC) DWV P-Traps..... <i>For Work In Restricted Working Space, Add</i>	246.99 19.85	44.12
22 13 16 00-0609	EA	4" Polyvinyl Chloride (PVC) DWV P-Traps..... <i>For Work In Restricted Working Space, Add</i>	507.54 23.09	51.30
22 13 16 00-0610	EA	6" Polyvinyl Chloride (PVC) DWV P-Traps..... <i>For Work In Restricted Working Space, Add</i>	861.36 30.01	66.59
22 13 16 00-0611		Polyvinyl Chloride (PVC) DWV Closet Flanges (22 13 16 00-0538)		
22 13 16 00-0612	EA	4" Polyvinyl Chloride (PVC) DWV Closet Flanges..... <i>For Work In Restricted Working Space, Add</i>	102.40 15.39	34.17
22 13 16 00-0613	EA	4" x 3" Polyvinyl Chloride (PVC) DWV Closet Flanges..... <i>For Work In Restricted Working Space, Add</i>	83.43 14.31	31.81
22 13 16 00-0614		Polyvinyl Chloride (PVC) DWV Wyes (22 13 16 00-0538)		
22 13 16 00-0615	EA	1-1/2" Polyvinyl Chloride (PVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	65.70 11.54	25.66
22 13 16 00-0616	EA	2" Polyvinyl Chloride (PVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	76.63 14.78	32.83
22 13 16 00-0617	EA	3" Polyvinyl Chloride (PVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	128.11 19.85	44.12
22 13 16 00-0618	EA	4" Polyvinyl Chloride (PVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	192.33 23.09	51.30
22 13 16 00-0619	EA	6" Polyvinyl Chloride (PVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	612.79 30.01	66.59
22 13 16 00-0620	EA	8" Polyvinyl Chloride (PVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	759.85 40.40	89.67
22 13 16 00-0621	EA	10" Polyvinyl Chloride (PVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	999.92 53.87	119.54
22 13 16 00-0622		Polyvinyl Chloride (PVC) DWV Reducing Wyes (22 13 16 00-0538)		
22 13 16 00-0623	EA	2" x 1-1/2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	90.68 12.62	28.01



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

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MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0624	EA	2" x 2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	93.83 13.70	30.37
22 13 16 00-0625	EA	3" x 3" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	132.61 17.08	37.97
22 13 16 00-0626	EA	3" x 3" x 2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	108.42 18.16	40.33
22 13 16 00-0627	EA	4" x 4" x 1-1/2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	184.27 19.24	42.68
22 13 16 00-0628	EA	4" x 4" x 2" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	160.40 20.32	45.14
22 13 16 00-0629	EA	4" x 4" x 3" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	181.55 22.01	48.84
22 13 16 00-0630	EA	6" x 6" x 3" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	553.90 26.83	59.10
22 13 16 00-0631	EA	6" x 6" x 4" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	687.25 27.70	61.46
22 13 16 00-0632	EA	8" x 8" x 4" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	651.26 34.63	76.85
22 13 16 00-0633	EA	8" x 8" x 6" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	824.24 36.94	81.98
22 13 16 00-0634	EA	10" x 10" x 4" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	749.05 43.61	96.76
22 13 16 00-0635	EA	10" x 10" x 6" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	936.29 45.91	101.89
22 13 16 00-0636	EA	10" x 10" x 8" Polyvinyl Chloride (PVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	1,091.22 49.38	109.58
22 13 16 00-0637		Polyvinyl Chloride (PVC) DWV Double Wyes (22 13 16 00-0538)		
22 13 16 00-0638	EA	1-1/2" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	109.28 15.39	34.17
22 13 16 00-0639	EA	2" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	140.19 19.70	43.71
22 13 16 00-0640	EA	3" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	280.77 26.47	58.80
22 13 16 00-0641	EA	4" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	492.92 30.78	68.34
22 13 16 00-0642	EA	6" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	1,017.36 40.01	88.86
22 13 16 00-0643	EA	8" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	1,177.21 53.87	119.64
22 13 16 00-0644	EA	10" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	1,829.13 71.82	159.45
22 13 16 00-0645		Polyvinyl Chloride (PVC) DWV Reducing Double Wyes (22 13 16 00-0538)		
22 13 16 00-0646	EA	2" x 2" x 1-1/2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	126.56 17.54	38.99
22 13 16 00-0647	EA	3" x 3" x 1-1/2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	238.70 20.93	46.48
22 13 16 00-0648	EA	3" x 3" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	220.29 23.09	51.30
22 13 16 00-0649	EA	4" x 4" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	318.12 25.24	56.03
22 13 16 00-0650	EA	4" x 4" x 3" x 3" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	404.50 28.63	63.51
22 13 16 00-0651	EA	6" x 6" x 4" x 4" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	625.62 35.40	78.60
22 13 16 00-0652	EA	8" x 8" x 4" x 4" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	732.17 42.32	93.98
22 13 16 00-0653	EA	8" x 8" x 6" x 6" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	933.58 46.94	104.24
22 13 16 00-0654	EA	10" x 10" x 4" x 4" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	985.95 51.30	113.90
22 13 16 00-0655	EA	10" x 10" x 6" x 6" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	1,282.78 55.92	124.15
22 13 16 00-0656	EA	10" x 10" x 8" x 8" Polyvinyl Chloride (PVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	1,552.45 62.84	139.54
22 13 16 00-0657		Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends (22 13 16 00-0538)		
22 13 16 00-0658	EA	1-1/2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	82.69 11.54	25.66
22 13 16 00-0659	EA	2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	103.13 14.78	32.83
22 13 16 00-0660	EA	3" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	207.75 19.85	44.12
22 13 16 00-0661	EA	4" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	370.94 23.09	51.30
22 13 16 00-0662		Polyvinyl Chloride (PVC) DWV Reducing Combination Wye And 1/8 Bends (22 13 16 00-0538)		

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0663	EA	2" x 2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	157.22 13.70	30.37
22 13 16 00-0664	EA	3" x 3" x 1-1/2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	250.76 17.08	37.97
22 13 16 00-0665	EA	3" x 3" x 2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	181.68 18.16	40.33
22 13 16 00-0666	EA	4" x 4" x 2" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	337.21 20.32	45.14
22 13 16 00-0667	EA	4" x 4" x 3" Polyvinyl Chloride (PVC) DWV Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	365.25 22.01	48.84
22 13 16 00-0668 Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends (22 13 16 00-0538)				
22 13 16 00-0669	EA	1-1/2" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	122.45 15.39	34.17
22 13 16 00-0670	EA	2" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	141.66 19.70	43.71
22 13 16 00-0671	EA	3" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	220.30 26.47	58.80
22 13 16 00-0672	EA	4" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	798.33 30.78	68.34
22 13 16 00-0673	EA	6" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	2,659.23 40.01	88.86
22 13 16 00-0674 Polyvinyl Chloride (PVC) DWV Reducing Double Combination Wye And 1/8 Bends (22 13 16 00-0538)				
22 13 16 00-0675	EA	2" x 2" x 1-1/2" x 1-1/2" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	291.30 17.54	38.99
22 13 16 00-0676	EA	3" x 3" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	471.41 23.09	51.30
22 13 16 00-0677	EA	4" x 4" x 2" x 2" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	819.27 25.24	56.03
22 13 16 00-0678	EA	4" x 4" x 3" x 3" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	738.79 28.63	63.51
22 13 16 00-0679	EA	6" x 6" x 4" x 4" Polyvinyl Chloride (PVC) DWV Double Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	1,768.14 35.40	78.60
22 13 16 00-0680 Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug (22 13 16 00-0538)				
22 13 16 00-0681	EA	2" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug <i>For Work In Restricted Working Space, Add</i>	178.85 14.78	32.83
22 13 16 00-0682	EA	3" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug <i>For Work In Restricted Working Space, Add</i>	313.77 19.85	44.12
22 13 16 00-0683	EA	4" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug <i>For Work In Restricted Working Space, Add</i>	507.62 23.09	51.30
22 13 16 00-0684	EA	6" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug <i>For Work In Restricted Working Space, Add</i>	1,351.42 30.01	66.59
22 13 16 00-0685	EA	8" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug <i>For Work In Restricted Working Space, Add</i>	1,692.70 40.40	89.67
22 13 16 00-0686	EA	10" Polyvinyl Chloride (PVC) DWV Cleanout Tees With Plug <i>For Work In Restricted Working Space, Add</i>	2,246.15 53.87	119.54
22 13 16 00-0687 Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug (22 13 16 00-0538)				
22 13 16 00-0688	EA	1-1/2" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug <i>For Work In Restricted Working Space, Add</i>	48.06 7.70	17.13
22 13 16 00-0689	EA	2" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug <i>For Work In Restricted Working Space, Add</i>	68.99 9.85	21.86
22 13 16 00-0690	EA	3" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug <i>For Work In Restricted Working Space, Add</i>	99.76 13.24	29.34
22 13 16 00-0691	EA	4" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug <i>For Work In Restricted Working Space, Add</i>	182.04 15.39	34.17
22 13 16 00-0692	EA	6" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug <i>For Work In Restricted Working Space, Add</i>	425.55 20.01	44.43
22 13 16 00-0693	EA	8" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug <i>For Work In Restricted Working Space, Add</i>	964.80 26.93	59.82
22 13 16 00-0694	EA	10" Polyvinyl Chloride (PVC) DWV Cleanout Adapters With Plug <i>For Work In Restricted Working Space, Add</i>	1,784.21 35.89	79.73
22 13 16 00-0695 Polyvinyl Chloride (PVC) Couplings (22 13 16 00-0538)				
22 13 16 00-0696	EA	1-1/2" Polyvinyl Chloride (PVC) Couplings <i>For Work In Restricted Working Space, Add</i>	32.30 7.70	17.13
22 13 16 00-0697	EA	2" Polyvinyl Chloride (PVC) Couplings <i>For Work In Restricted Working Space, Add</i>	40.30 9.85	21.86
22 13 16 00-0698	EA	3" Polyvinyl Chloride (PVC) Couplings <i>For Work In Restricted Working Space, Add</i>	63.20 13.24	29.34
22 13 16 00-0699	EA	4" Polyvinyl Chloride (PVC) Couplings <i>For Work In Restricted Working Space, Add</i>	82.66 15.39	34.17
22 13 16 00-0700	EA	6" Polyvinyl Chloride (PVC) Couplings <i>For Work In Restricted Working Space, Add</i>	239.78 20.01	44.43



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

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MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0701	EA	8" Polyvinyl Chloride (PVC) Couplings <i>For Work In Restricted Working Space, Add</i>	589.77 26.93	59.82
22 13 16 00-0702	EA	10" Polyvinyl Chloride (PVC) Couplings <i>For Work In Restricted Working Space, Add</i>	894.50 35.91	79.73
22 13 16 00-0703		Polyvinyl Chloride (PVC) Male Adapters (22 13 16 00-0538)		
22 13 16 00-0704	EA	1-1/2" Polyvinyl Chloride (PVC) Male Adapters	19.55	8.51
22 13 16 00-0705	EA	2" Polyvinyl Chloride (PVC) Male Adapters	32.94	10.98
22 13 16 00-0706	EA	3" Polyvinyl Chloride (PVC) Male Adapters	67.89	14.67
22 13 16 00-0707	EA	4" Polyvinyl Chloride (PVC) Male Adapters	130.70	17.13
22 13 16 00-0708		Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe (22 13 16 00-0503) Note: In place piping.		
22 13 16 00-0709	EA	1-1/2", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe.....	7.52	
22 13 16 00-0710	EA	2", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe.....	8.28	
22 13 16 00-0711	EA	3", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe.....	10.52	
22 13 16 00-0712	EA	4", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe.....	14.20	
22 13 16 00-0713	EA	6", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe.....	20.30	
22 13 16 00-0714	EA	8", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe.....	27.07	
22 13 16 00-0715	EA	10", Cut And Prepare Existing Polyvinyl Chloride (PVC) DWV Pipe.....	33.10	
22 13 16 00-0716		Acrylonitrile Butadiene Styrene (ABS) Drain-Waste-Vent (DWV) Pipe And Fittings (22 13 16) Note: Aboveground installation.		
22 13 16 00-0717		Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assemblies (22 13 16 00-0716) Note: Includes all hangers and couplings, elbow, tee and reducer fittings. All hangers are complete assemblies installed in accordance with uniform plumbing code. Not for use where detail is available.		
22 13 16 00-0718	LF	1-1/2" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assembly..... Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	27.24 5.90	4.31
22 13 16 00-0719	LF	2" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assembly..... Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	30.30 6.54	5.13
22 13 16 00-0720	LF	3" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assembly..... Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	42.49 8.12	7.39
22 13 16 00-0721	LF	4" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assembly..... Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	49.41 9.02	8.00
22 13 16 00-0722	LF	6" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV Pipe Assembly..... Note: Includes all fittings, couplings and hangers. Fittings are assumed every 10'. Not for use where detail is available.	86.61 11.99	10.26
22 13 16 00-0723		Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe (ASTM F-628) (22 13 16 00-0716) Note: Excludes fittings or hangers.		
22 13 16 00-0724	LF	1-1/2" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe..... <i>For Work In Restricted Working Space, Add</i>	9.83 1.92	4.31
22 13 16 00-0725	LF	2" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe..... <i>For Work In Restricted Working Space, Add</i>	12.29 2.31	5.13
22 13 16 00-0726	LF	3" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe..... <i>For Work In Restricted Working Space, Add</i>	20.52 3.31	7.39
22 13 16 00-0727	LF	4" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe..... <i>For Work In Restricted Working Space, Add</i>	25.55 3.59	8.00
22 13 16 00-0728	LF	6" Schedule 40 Acrylonitrile Butadiene Styrene (ABS) DWV "Foam-Core" Pipe..... <i>For Work In Restricted Working Space, Add</i>	42.82 4.55	10.11
22 13 16 00-0729		Acrylonitrile Butadiene Styrene (ABS) DWV Fittings (ASTM D-2661) (22 13 16 00-0716)		
22 13 16 00-0730		Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends (22 13 16 00-0729)		
22 13 16 00-0731	EA	1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends	40.20	17.13
22 13 16 00-0732	EA	2" Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends..... <i>For Work In Restricted Working Space, Add</i>	53.57 9.85	21.86
22 13 16 00-0733	EA	3" Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends..... <i>For Work In Restricted Working Space, Add</i>	108.13 13.24	29.34
22 13 16 00-0734	EA	4" Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends..... <i>For Work In Restricted Working Space, Add</i>	176.72 15.39	34.17
22 13 16 00-0735	EA	6" Acrylonitrile Butadiene Styrene (ABS) DWV 1/4 Bends..... <i>For Work In Restricted Working Space, Add</i>	534.81 20.01	44.43



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT UNIT COST DEMOLITION UNIT COST

22 13 16 00-0736		Acrylonitrile Butadiene Styrene (ABS) DWV Long Sweep 1/4 Bends (22 13 16 00-0729)	
22 13 16 00-0737	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Long Sweep 1/4 Bends.....	60.31	17.13
	For Work In Restricted Working Space, Add	7.70	
22 13 16 00-0738	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Long Sweep 1/4 Bends.....	73.23	21.86
	For Work In Restricted Working Space, Add	9.85	
22 13 16 00-0739	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Long Sweep 1/4 Bends.....	156.93	29.34
	For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0740	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Long Sweep 1/4 Bends.....	273.81	34.17
	For Work In Restricted Working Space, Add	15.39	
22 13 16 00-0741		Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends (22 13 16 00-0729)	
22 13 16 00-0742	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends.....	42.93	17.13
	For Work In Restricted Working Space, Add	7.70	
22 13 16 00-0743	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends.....	51.67	21.86
	For Work In Restricted Working Space, Add	9.85	
22 13 16 00-0744	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends.....	98.12	29.34
	For Work In Restricted Working Space, Add	13.24	
22 13 16 00-0745	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends.....	158.25	34.17
	For Work In Restricted Working Space, Add	15.39	
22 13 16 00-0746	EA 6" Acrylonitrile Butadiene Styrene (ABS) DWV 1/8 Bends.....	554.30	44.43
	For Work In Restricted Working Space, Add	20.01	
22 13 16 00-0747		Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees (22 13 16 00-0729)	
22 13 16 00-0748	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees.....	63.23	25.66
	For Work In Restricted Working Space, Add	11.54	
22 13 16 00-0749	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees.....	86.47	32.83
	For Work In Restricted Working Space, Add	14.78	
22 13 16 00-0750	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees.....	161.03	44.12
	For Work In Restricted Working Space, Add	19.85	
22 13 16 00-0751	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees.....	259.20	51.30
	For Work In Restricted Working Space, Add	23.09	
22 13 16 00-0752	EA 6" Acrylonitrile Butadiene Styrene (ABS) DWV Sanitary Tees.....	1,087.88	66.59
	For Work In Restricted Working Space, Add	30.01	
22 13 16 00-0753		Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees (22 13 16 00-0729)	
22 13 16 00-0754	EA 2" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees.....	81.56	28.01
	For Work In Restricted Working Space, Add	12.62	
22 13 16 00-0755	EA 2" x 1-1/2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees.....	101.11	30.37
	For Work In Restricted Working Space, Add	13.70	
22 13 16 00-0756	EA 2" x 2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees.....	81.34	30.37
	For Work In Restricted Working Space, Add	13.70	
22 13 16 00-0757	EA 3" x 3" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees.....	129.39	37.97
	For Work In Restricted Working Space, Add	17.08	
22 13 16 00-0758	EA 3" x 3" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees.....	133.65	40.33
	For Work In Restricted Working Space, Add	18.16	
22 13 16 00-0759	EA 4" x 4" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees.....	326.80	42.68
	For Work In Restricted Working Space, Add	19.24	
22 13 16 00-0760	EA 4" x 4" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees.....	312.91	45.14
	For Work In Restricted Working Space, Add	20.32	
22 13 16 00-0761	EA 4" x 4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees.....	360.88	48.84
	For Work In Restricted Working Space, Add	22.01	
22 13 16 00-0762	EA 6" x 6" x 4" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Sanitary Tees.....	1,196.80	61.46
	For Work In Restricted Working Space, Add	27.70	
22 13 16 00-0763		Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees (22 13 16 00-0729)	
22 13 16 00-0764	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees.....	126.53	34.17
	For Work In Restricted Working Space, Add	15.39	
22 13 16 00-0765	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees.....	175.43	43.71
	For Work In Restricted Working Space, Add	19.70	
22 13 16 00-0766	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees.....	396.56	58.80
	For Work In Restricted Working Space, Add	26.47	
22 13 16 00-0767	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees.....	596.76	68.34
	For Work In Restricted Working Space, Add	30.78	
22 13 16 00-0768		Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Double Sanitary Tees (22 13 16 00-0729)	
22 13 16 00-0769	EA 2" x 2" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees.....	143.81	38.99
	For Work In Restricted Working Space, Add	17.54	
22 13 16 00-0770	EA 3" x 3" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees.....	226.91	46.48
	For Work In Restricted Working Space, Add	20.93	
22 13 16 00-0771	EA 3" x 3" x 2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees.....	262.89	51.30
	For Work In Restricted Working Space, Add	23.09	
22 13 16 00-0772	EA 4" x 4" x 2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes.....	492.46	55.24
	For Work In Restricted Working Space, Add	24.89	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0773	EA		4" x 4" x 3" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Double Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	514.90 28.23	62.63
22 13 16 00-0774			Acrylonitrile Butadiene Styrene (ABS) DWV Wyes (22 13 16 00-0729)		
22 13 16 00-0775	EA		1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	88.33 11.54	25.66
22 13 16 00-0776	EA		2" Acrylonitrile Butadiene Styrene (ABS) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	100.44 14.78	32.83
22 13 16 00-0777	EA		3" Acrylonitrile Butadiene Styrene (ABS) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	179.48 19.85	44.12
22 13 16 00-0778	EA		4" Acrylonitrile Butadiene Styrene (ABS) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	288.04 23.09	51.30
22 13 16 00-0779	EA		6" Acrylonitrile Butadiene Styrene (ABS) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	874.59 30.01	66.59
22 13 16 00-0780			Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes (22 13 16 00-0729)		
22 13 16 00-0781	EA		2" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes <i>For Work In Restricted Working Space, Add</i>	131.03 12.62	28.01
22 13 16 00-0782	EA		2" x 2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes <i>For Work In Restricted Working Space, Add</i>	133.71 13.70	30.37
22 13 16 00-0783	EA		3" x 3" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	148.59 18.16	40.33
22 13 16 00-0784	EA		4" x 4" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	237.32 20.32	45.14
22 13 16 00-0785	EA		4" x 4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	271.50 22.01	48.84
22 13 16 00-0786	EA		6" x 6" x 4" Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	732.27 27.70	61.46
22 13 16 00-0787			Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes (22 13 16 00-0729)		
22 13 16 00-0788	EA		1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes <i>For Work In Restricted Working Space, Add</i>	157.34 15.39	34.17
22 13 16 00-0789	EA		2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes <i>For Work In Restricted Working Space, Add</i>	202.07 19.70	43.71
22 13 16 00-0790	EA		3" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes <i>For Work In Restricted Working Space, Add</i>	440.86 26.47	58.80
22 13 16 00-0791	EA		4" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes <i>For Work In Restricted Working Space, Add</i>	816.91 30.78	68.34
22 13 16 00-0792			Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Double Wyes (22 13 16 00-0729)		
22 13 16 00-0793	EA		2" x 2" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes <i>For Work In Restricted Working Space, Add</i>	183.06 17.54	38.99
22 13 16 00-0794	EA		3" x 3" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes <i>For Work In Restricted Working Space, Add</i>	318.50 20.93	46.48
22 13 16 00-0795	EA		3" x 3" x 2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes <i>For Work In Restricted Working Space, Add</i>	338.75 23.09	51.30
22 13 16 00-0796	EA		4" x 4" x 2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes <i>For Work In Restricted Working Space, Add</i>	512.41 25.24	56.03
22 13 16 00-0797	EA		4" x 4" x 3" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Double Wyes <i>For Work In Restricted Working Space, Add</i>	661.13 28.63	63.51
22 13 16 00-0798			Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bend (22 13 16 00-0729)		
22 13 16 00-0799	EA		1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	118.11 11.54	25.66
22 13 16 00-0800	EA		2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	152.75 14.78	32.83
22 13 16 00-0801	EA		3" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	236.72 19.85	44.12
22 13 16 00-0802	EA		4" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	410.66 22.76	50.59
22 13 16 00-0803			Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Combination Wye And 1/8 Bend (22 13 16 00-0729)		
22 13 16 00-0804	EA		2" x 2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	129.48 13.70	30.37
22 13 16 00-0805	EA		3" x 3" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	255.41 17.08	37.97
22 13 16 00-0806	EA		3" x 3" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	184.57 18.16	40.33
22 13 16 00-0807	EA		4" x 4" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	343.99 20.32	45.14
22 13 16 00-0808	EA		4" x 4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Combination Wye And 1/8 Bends <i>For Work In Restricted Working Space, Add</i>	372.52 22.01	48.84



MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
22 13 16 00-0809	Acrylonitrile Butadiene Styrene (ABS) DWV Double Combination Wye And 1/8 Bend (22 13 16 00-0729)				
22 13 16 00-0810	EA 2" x 2" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Combination Wye And 1/8 Bends.....	253.05		43.71	
	For Work In Restricted Working Space, Add	19.70			
22 13 16 00-0811	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Double Combination Wye And 1/8 Bends.....	520.41		58.80	
	For Work In Restricted Working Space, Add	26.47			
22 13 16 00-0812	Acrylonitrile Butadiene Styrene (ABS) DWV Reducing Double Combination Wye And 1/8 Bend (22 13 16 00-0729)				
22 13 16 00-0813	EA 2" x 2" x 1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Combination Wye And 1/8 Bends.....	209.27		38.99	
	For Work In Restricted Working Space, Add	17.54			
22 13 16 00-0814	EA 3" x 3" x 2" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Double Combination Wye And 1/8 Bends.....	501.76		51.30	
	For Work In Restricted Working Space, Add	23.09			
22 13 16 00-0815	Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Tees With Plug (22 13 16 00-0729)				
22 13 16 00-0816	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Tees With Plug.....	132.14		25.66	
	For Work In Restricted Working Space, Add	11.54			
22 13 16 00-0817	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Tees With Plug.....	166.78		32.83	
	For Work In Restricted Working Space, Add	14.78			
22 13 16 00-0818	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Tees With Plug.....	268.07		44.12	
	For Work In Restricted Working Space, Add	19.85			
22 13 16 00-0819	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Tees With Plug.....	454.35		51.30	
	For Work In Restricted Working Space, Add	23.09			
22 13 16 00-0820	Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug (22 13 16 00-0729)				
22 13 16 00-0821	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug.....	57.77		17.13	
	For Work In Restricted Working Space, Add	7.70			
22 13 16 00-0822	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug.....	84.66		21.86	
	For Work In Restricted Working Space, Add	9.85			
22 13 16 00-0823	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug.....	123.76		29.34	
	For Work In Restricted Working Space, Add	13.24			
22 13 16 00-0824	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug.....	238.80		34.17	
	For Work In Restricted Working Space, Add	15.39			
22 13 16 00-0825	EA 6" Acrylonitrile Butadiene Styrene (ABS) DWV Cleanout Adapters With Plug.....	581.45		44.43	
	For Work In Restricted Working Space, Add	20.01			
22 13 16 00-0826	Acrylonitrile Butadiene Styrene (ABS) DWV Couplings (22 13 16 00-0729)				
22 13 16 00-0827	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Couplings.....	36.73		17.13	
	For Work In Restricted Working Space, Add	7.70			
22 13 16 00-0828	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV Couplings.....	44.50		21.86	
	For Work In Restricted Working Space, Add	9.85			
22 13 16 00-0829	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV Couplings.....	75.87		29.34	
	For Work In Restricted Working Space, Add	13.24			
22 13 16 00-0830	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Couplings.....	103.64		34.17	
	For Work In Restricted Working Space, Add	15.39			
22 13 16 00-0831	EA 6" Acrylonitrile Butadiene Styrene (ABS) DWV Couplings.....	325.41		44.43	
	For Work In Restricted Working Space, Add	20.01			
22 13 16 00-0832	Acrylonitrile Butadiene Styrene (ABS) DWV Reducers (22 13 16 00-0729)				
22 13 16 00-0833	EA 2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducers.....	57.30		19.50	
	For Work In Restricted Working Space, Add	8.77			
22 13 16 00-0834	EA 3" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducers.....	123.85		23.19	
	For Work In Restricted Working Space, Add	10.47			
22 13 16 00-0835	EA 3" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducers.....	113.06		25.66	
	For Work In Restricted Working Space, Add	11.54			
22 13 16 00-0836	EA 4" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Reducers.....	189.20		28.01	
	For Work In Restricted Working Space, Add	12.62			
22 13 16 00-0837	EA 4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Reducers.....	201.65		31.81	
	For Work In Restricted Working Space, Add	14.31			
22 13 16 00-0838	Acrylonitrile Butadiene Styrene (ABS) DWV P-Traps (22 13 16 00-0729)				
22 13 16 00-0839	EA 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV P-Traps.....	92.87		25.66	
	For Work In Restricted Working Space, Add	11.54			
22 13 16 00-0840	EA 2" Acrylonitrile Butadiene Styrene (ABS) DWV P-Traps.....	137.30		32.83	
	For Work In Restricted Working Space, Add	14.78			
22 13 16 00-0841	EA 3" Acrylonitrile Butadiene Styrene (ABS) DWV P-Traps.....	469.48		44.12	
	For Work In Restricted Working Space, Add	19.85			
22 13 16 00-0842	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV P-Traps.....	903.21		51.30	
	For Work In Restricted Working Space, Add	23.09			
22 13 16 00-0843	Acrylonitrile Butadiene Styrene (ABS) DWV Closet Flanges (22 13 16 00-0729)				
22 13 16 00-0844	EA 4" Acrylonitrile Butadiene Styrene (ABS) DWV Closet Flanges.....	127.25		34.17	
	For Work In Restricted Working Space, Add	15.39			



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Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

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MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0845	EA	4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Closet Flanges <i>For Work In Restricted Working Space, Add</i>	118.95 14.31	31.81
22 13 16 00-0846		Acrylonitrile Butadiene Styrene (ABS) DWV Male Adapters (22 13 16 00-0729)		
22 13 16 00-0847	EA	1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Male Adapters <i>For Work In Restricted Working Space, Add</i>	26.95 3.85	8.51
22 13 16 00-0848	EA	2" Acrylonitrile Butadiene Styrene (ABS) DWV Male Adapters <i>For Work In Restricted Working Space, Add</i>	41.45 4.92	10.98
22 13 16 00-0849	EA	3" Acrylonitrile Butadiene Styrene (ABS) DWV Male Adapters <i>For Work In Restricted Working Space, Add</i>	94.99 6.62	14.67
22 13 16 00-0850	EA	4" Acrylonitrile Butadiene Styrene (ABS) DWV Male Adapters <i>For Work In Restricted Working Space, Add</i>	187.00 7.70	17.13
22 13 16 00-0851		Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushings (22 13 16 00-0729)		
22 13 16 00-0852	EA	2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	40.91 6.77	19.50
22 13 16 00-0853	EA	3" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	97.84 10.47	23.19
22 13 16 00-0854	EA	3" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	78.47 11.54	25.66
22 13 16 00-0855	EA	4" x 2" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	187.18 12.62	28.01
22 13 16 00-0856	EA	4" x 3" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	131.80 14.31	31.81
22 13 16 00-0857	EA	6" x 4" Acrylonitrile Butadiene Styrene (ABS) DWV Flush Bushing <i>For Work In Restricted Working Space, Add</i>	387.90 17.45	38.75
22 13 16 00-0858		Acrylonitrile Butadiene Styrene (ABS) To Polyvinyl Chloride (PVC) Flexible Couplings (22 13 16 00-0729)		
22 13 16 00-0859	EA	1-1/2" x 1-1/2" Acrylonitrile Butadiene Styrene (ABS) To Polyvinyl Chloride (PVC) Flexible Coupling <i>For Work In Restricted Working Space, Add</i>	135.47 7.70	17.13
22 13 16 00-0860	EA	2" x 2" Acrylonitrile Butadiene Styrene (ABS) To Polyvinyl Chloride (PVC) Flexible Coupling <i>For Work In Restricted Working Space, Add</i>	149.96 9.85	21.86
22 13 16 00-0861	EA	3" x 3" Acrylonitrile Butadiene Styrene (ABS) To Polyvinyl Chloride (PVC) Flexible Coupling <i>For Work In Restricted Working Space, Add</i>	168.57 13.24	29.34
22 13 16 00-0862	EA	4" x 4" Acrylonitrile Butadiene Styrene (ABS) To Polyvinyl Chloride (PVC) Flexible Coupling <i>For Work In Restricted Working Space, Add</i>	183.07 15.39	34.17
22 13 16 00-0863		Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe (22 13 16 00-0716) Note: In place piping.		
22 13 16 00-0864	EA	1-1/2", Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe	7.52	
22 13 16 00-0865	EA	2", Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe	8.28	
22 13 16 00-0866	EA	3", Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe	10.52	
22 13 16 00-0867	EA	4", Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe	14.20	
22 13 16 00-0868	EA	6", Cut And Prepare Existing Acrylonitrile Butadiene Styrene (ABS) DWV Pipe	20.30	
22 13 16 00-0869		Elastomeric Flexible Pipe Couplings (22 13 16)		
22 13 16 00-0870		Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Couplings (22 13 16 00-0869) Note: For cast iron or plastic to cast iron or plastic pipe (Cast Iron/Plastic To Cast Iron/Plastic). Includes stainless steel clamps.		
22 13 16 00-0871	EA	1-1/4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-125)	13.11	4.46
22 13 16 00-0872	EA	1-1/2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-150)	14.13	4.73
22 13 16 00-0873	EA	2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-22)	14.86	5.02
22 13 16 00-0874	EA	3" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-33)	17.12	5.29
22 13 16 00-0875	EA	4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-44)	19.31	5.57
22 13 16 00-0876	EA	5" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-55)	24.51	5.85
22 13 16 00-0877	EA	6" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-66)	29.74	6.12
22 13 16 00-0878	EA	8" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-88)	40.27	6.69
22 13 16 00-0879	EA	10" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Pipe Coupling (Fernco 1056-1010)	52.98	7.80
22 13 16 00-0880		Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Couplings (22 13 16 00-0869) Note: For cast iron or plastic to cast iron or plastic pipe (Cast Iron/Plastic To Cast Iron/Plastic). Includes stainless steel clamps.		
22 13 16 00-0881	EA	1-1/2" x 1-1/4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-150/125)	13.96	4.73
22 13 16 00-0882	EA	2" x 1-1/2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-215)	15.14	5.02
22 13 16 00-0883	EA	3" x 1-1/2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-315)	18.47	5.29
22 13 16 00-0884	EA	3" x 2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-32)	16.63	5.29
22 13 16 00-0885	EA	4" x 1-1/2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-415)	22.63	5.57
22 13 16 00-0886	EA	4" x 2" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-42)	21.69	5.57
22 13 16 00-0887	EA	4" x 3" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-43)	19.94	5.57
22 13 16 00-0888	EA	5" x 3" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-53)	28.61	5.85

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 16 00-0889 EA 5" x 4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-54)	25.94	5.85
22 13 16 00-0890 EA 6" x 3" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-63)	35.26	6.12
22 13 16 00-0891 EA 6" x 4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-64)	31.26	6.12
22 13 16 00-0892 EA 6" x 5" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-65)	32.38	6.12
22 13 16 00-0893 EA 8" x 4" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-84)	63.44	11.14
22 13 16 00-0894 EA 8" x 6" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-86)	52.35	11.14
22 13 16 00-0895 EA 10" x 8" Cast Iron/Plastic To Cast Iron/Plastic, Elastomeric Flexible Reducing Pipe Coupling (Fernco 1056-10-8)	66.01	12.54
22 13 16 00-0896 Elastomeric Flexible Pipe Caps (Fernco QC) (22 13 16)		
Note: For cast iron, steel, copper or plastic pipe. Includes stainless steel clamp.		
22 13 16 00-0897 EA 1-1/2" Elastomeric Flexible Pipe Cap (Fernco QC-101)	49.03	30.08
22 13 16 00-0898 EA 2" Elastomeric Flexible Pipe Cap (Fernco QC-102)	52.58	31.98
22 13 16 00-0899 EA 3" Elastomeric Flexible Pipe Cap (Fernco QC-103)	60.87	36.66
22 13 16 00-0900 EA 4" Elastomeric Flexible Pipe Cap (Fernco QC-104)	80.31	48.46
22 13 16 00-0901 EA 5" Elastomeric Flexible Pipe Cap (Fernco QC-105)	96.26	57.94
22 13 16 00-0902 EA 6" Elastomeric Flexible Pipe Cap (Fernco QC-106)	111.01	66.86
22 13 16 00-0903 EA 8" Elastomeric Flexible Pipe Cap (Fernco QC-108)	148.72	84.68
22 13 16 00-0904 EA 10" Elastomeric Flexible Pipe Cap (Fernco QC-110)	182.47	94.70
22 13 16 00-0905 EA 12" Elastomeric Flexible Pipe Cap (Fernco QC-112)	230.32	105.29
22 13 16 00-0906 Seamless Pipe Vent Flashing For Multiple Pipe (22 13 16)		
Note: Elmdor/Stoneman #910.		
22 13 16 00-0907 EA Multi Flash Assembly (Elmdor/Stoneman #910-6 STD - 4 LB)	505.53	116.99
22 13 16 00-0908 EA Multi Flash Assembly (Elmdor/Stoneman #910-6 STD - 6 LB)	528.43	116.99
22 13 16 00-0909 EA Multi Flash Assembly (Elmdor/Stoneman #910-8 SK - 4 LB)	565.28	136.49
22 13 16 00-0910 EA Multi Flash Assembly (Elmdor/Stoneman #910-8 SK - 6 LB)	597.42	136.49
22 13 16 00-0911 EA Multi Flash Assembly (Elmdor/Stoneman #910-10 SK - 4 LB)	639.73	158.77
22 13 16 00-0912 EA Multi Flash Assembly (Elmdor/Stoneman #910-10 SK - 6 LB)	683.51	158.77
22 13 16 00-0913 Cast Iron Vent Stack Flashing Sleeves With Caulking Recess (Josam 26450 Series) (22 13 16)		
22 13 16 00-0914 EA 1-1/2" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	95.99	23.09
22 13 16 00-0915 EA 2" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	101.12	25.66
22 13 16 00-0916 EA 3" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	152.11	33.34
22 13 16 00-0917 EA 4" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	178.39	38.47
22 13 16 00-0918 EA 5" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	208.20	43.61
22 13 16 00-0919 EA 6" Cast Iron Vent Stack Flashing Sleeves With Caulking Recess	353.69	48.74
22 13 16 00-0920 Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess (Josam 26440 Series) (22 13 16)		
22 13 16 00-0921 EA 1-1/2" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	201.68	23.09
22 13 16 00-0922 EA 2" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	206.81	25.66
22 13 16 00-0923 EA 3" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	245.46	33.34
22 13 16 00-0924 EA 4" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	307.54	38.47
22 13 16 00-0925 EA 5" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	421.47	43.61
22 13 16 00-0926 EA 6" Cast Iron Vent Stack Flashing Sleeves With Counterflashing Recess	431.73	48.74
22 13 16 00-0927 Cast Iron Vandal Proof Hooded Vent Cap (Josam 26700 Series) (22 13 16)		
Note: Includes counterflashing collar, deep protective hood and recessed securing screws.		
22 13 16 00-0928 EA 1-1/2" Cast Iron Vandal Proof Hooded Vent Cap	387.55	23.09
22 13 16 00-0929 EA 2" Cast Iron Vandal Proof Hooded Vent Cap	392.68	25.66
22 13 16 00-0930 EA 3" Cast Iron Vandal Proof Hooded Vent Cap	450.75	33.34
22 13 16 00-0931 EA 4" Cast Iron Vandal Proof Hooded Vent Cap	507.24	38.47
22 13 16 00-0932 EA 5" Cast Iron Vandal Proof Hooded Vent Cap	592.18	43.61
22 13 16 00-0933 EA 6" Cast Iron Vandal Proof Hooded Vent Cap	646.89	48.74
22 13 19 Sanitary Waste Piping Specialties (22 13)		
22 13 19 13 Sanitary Drains (22 13 19)		
22 13 19 13-0001 Round Top Floor Drains (22 13 19 13)		
22 13 19 13-0002 EA Bronze Top, 6" Round Top Floor Drain With 1-1/2" Outlet	794.04	110.30
For Sediment Bucket, Add		22.50
For Galvanized Cast Iron Parts, Add		105.00
For Vandal Proof Screws, Add		11.00
22 13 19 13-0003 EA Bronze Top, 6" Round Top Floor Drain With 2" Outlet	871.99	123.64
For Sediment Bucket, Add		22.50
For Galvanized Cast Iron Parts, Add		105.00
For Vandal Proof Screws, Add		11.00
22 13 19 13-0004 EA Bronze Top, 6" Round Top Floor Drain With 3" Outlet	847.09	136.77
For Sediment Bucket, Add		22.50
For Galvanized Cast Iron Parts, Add		105.00
For Vandal Proof Screws, Add		11.00



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0005	EA		Bronze Top, 6" Round Top Floor Drain With 4" Outlet.....	875.26	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0006	EA		Cast Iron Top, 9" Round Top Floor Drain With 2" Outlet	794.29	123.64
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0007	EA		Cast Iron Top, 9" Round Top Floor Drain With 3" Outlet	820.66	136.77
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0008	EA		Cast Iron Top, 9" Round Top Floor Drain With 4" Outlet	848.83	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0009	EA		Nikaloy Top, 9" Round Top Floor Drain With 2" Outlet.....	1,338.70	123.64
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0010	EA		Nikaloy Top, 9" Round Top Floor Drain With 3" Outlet	1,365.07	136.77
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0011	EA		Nikaloy Top, 9" Round Top Floor Drain With 4" Outlet	1,393.24	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0012	EA		Bronze Top, 9" Round Top Floor Drain With 2" Outlet.....	1,259.41	123.64
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0013	EA		Bronze Top, 9" Round Top Floor Drain With 3" Outlet.....	1,285.64	136.77
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	
22 13 19 13-0014	EA		Bronze Top, 9" Round Top Floor Drain With 4" Outlet.....	1,313.95	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	48.00	
			For Cast Iron Dome Grate, Add	17.00	
			For Nikaloy Dome Grate, Add	178.50	
			For Bronze Dome Grate, Add	143.00	
			For Cast Iron Extension Collar, Each 3" (76 mm), Add	57.50	
			For Galvanized Extension Collar, Each 3", Add	117.50	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0015	EA		Cast Iron Top, 12-5/8" Round Top Floor Drain With 2" Outlet	1,386.15	123.54
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0016	EA		Cast Iron Top, 12-5/8" Round Top Floor Drain With 3" Outlet	1,412.50	136.77
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0017	EA		Cast Iron Top, 12-5/8" Round Top Floor Drain With 4" Outlet	1,440.81	150.93
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0018	EA		Nikaloy Top, 12-5/8" Round Top Floor Drain With 2" Outlet	2,200.11	123.54
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0019	EA		Nikaloy Top, 12-5/8" Round Top Floor Drain With 3" Outlet	2,226.46	136.77
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0020	EA		Nikaloy Top, 12-5/8" Round Top Floor Drain With 4" Outlet	2,254.77	150.93
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0021	EA		Bronze Top, 12-5/8" Round Top Floor Drain With 2" Outlet	2,091.76	123.54
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0022	EA		Bronze Top, 12-5/8" Round Top Floor Drain With 3" Outlet	2,118.11	136.77
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0023	EA		Bronze Top, 12-5/8" Round Top Floor Drain With 4" Outlet	2,146.42	150.93
			For Primer Tap, Add	33.50	
			For Chained Grate, Add	48.50	
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	53.00	
			For Cast Iron Dome Grate, Add	28.00	
			For Nikaloy Dome Grate, Add	255.00	
			For Bronze Dome Grate, Add	218.50	
			For Cast Iron Extension Collar, Each 2", Add	51.00	
			For Galvanized Extension Collar, Each 2", Add	102.50	
			For Galvanized Cast Iron Parts, Add	132.00	
22 13 19 13-0024			Square Or Rectangular Top Drains (22 13 19 13)		
22 13 19 13-0025	EA		5" x 5" Floor Drain With 2" Bottom Outlet, Nikaloy Top	944.81	123.54
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0026	EA		5" x 5" Floor Drain With 3" Bottom Outlet, Nikaloy Top	971.45	136.87
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0027	EA		5" x 5" Floor Drain With 4" Bottom Outlet, Nikaloy Top	999.47	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0028	EA		6" x 6" Floor Drain With 2" Bottom Outlet, Nikaloy Top	1,024.09	123.54
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0029	EA		6" x 6" Floor Drain With 3" Bottom Outlet, Nikaloy Top	1,050.73	136.87
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0030	EA		6" x 6" Floor Drain With 4" Bottom Outlet, Nikaloy Top	1,078.75	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0031	EA		8" x 8" Floor Drain With 2" Bottom Outlet, Nikaloy Top	1,372.93	123.54
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0032	EA		8" x 8" Floor Drain With 3" Bottom Outlet, Nikaloy Top	1,399.57	136.87
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0033	EA		8" x 8" Floor Drain With 4" Bottom Outlet, Nikaloy Top	1,427.59	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0034	EA		5" x 5" Floor Drain With 2" Bottom Outlet, Bronze Top	886.67	123.54
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0035	EA		5" x 5" Floor Drain With 3" Bottom Outlet, Bronze Top	913.31	136.87
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0036	EA		5" x 5" Floor Drain With 4" Bottom Outlet, Bronze Top	941.33	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0037	EA		6" x 6" Floor Drain With 2" Bottom Outlet, Bronze Top	987.09	123.54
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0038	EA		6" x 6" Floor Drain With 3" Bottom Outlet, Bronze Top	1,013.73	136.87
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0039	EA		6" x 6" Floor Drain With 4" Bottom Outlet, Bronze Top	1,041.75	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0040	EA		8" x 8" Floor Drain With 2" Bottom Outlet, Bronze Top	1,269.86	123.54
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0041	EA		8" x 8" Floor Drain With 3" Bottom Outlet, Bronze Top	1,296.50	136.87
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0042	EA		8" x 8" Floor Drain With 4" Bottom Outlet, Bronze Top	1,324.52	150.93
			For Sediment Bucket, Add	22.50	
			For Galvanized Cast Iron Parts, Add	105.00	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0043	EA		12" x 12" Can Wash Drain With 3" Bottom Outlet, Cast Iron Top	3,336.71	136.87
			For Galvanized Cast Iron Parts, Add	318.00	
			For No-Hub Side Outlet, Add	76.00	
			For Chained Grate, Add	48.50	
22 13 19 13-0044	EA		12" x 12" Can Wash Drain With 4" Bottom Outlet, Cast Iron Top	3,364.73	150.93
			For Galvanized Cast Iron Parts, Add	318.00	
			For No-Hub Side Outlet, Add	76.00	
			For Chained Grate, Add	48.50	
22 13 19 13-0045	EA		12" x 12" Can Wash Drain With 3" Bottom Outlet, Nikaloy Top	4,196.24	136.87
			For Galvanized Cast Iron Parts, Add	318.00	
			For No-Hub Side Outlet, Add	76.00	
			For Chained Grate, Add	48.50	
22 13 19 13-0046	EA		12" x 12" Can Wash Drain With 4" Bottom Outlet, Nikaloy Top	4,226.26	150.93
			For Galvanized Cast Iron Parts, Add	318.00	
			For No-Hub Side Outlet, Add	76.00	
			For Chained Grate, Add	48.50	
22 13 19 13-0047	EA		12" x 12" Can Wash Drain With 3" Bottom Outlet, Bronze Top	4,095.18	136.87
			For Galvanized Cast Iron Parts, Add	318.00	
			For No-Hub Side Outlet, Add	76.00	
			For Chained Grate, Add	48.50	
22 13 19 13-0048	EA		12" x 12" Can Wash Drain With 4" Bottom Outlet, Bronze Top	4,123.20	150.93
			For Galvanized Cast Iron Parts, Add	318.00	
			For No-Hub Side Outlet, Add	76.00	
			For Chained Grate, Add	48.50	
22 13 19 13-0049	EA		5" x 9" Floor Drain With 2" Bottom Outlet, Nikaloy Top	1,394.07	123.54
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0050	EA		5" x 9" Floor Drain With 3" Bottom Outlet, Nikaloy Top	1,420.71	136.87
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0051	EA		5" x 9" Floor Drain With 4" Bottom Outlet, Nikaloy Top	1,448.73	150.93
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0052	EA		5" x 13" Floor Drain With 2" Bottom Outlet, Nikaloy Top	1,803.70	123.54
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0053	EA		5" x 13" Floor Drain With 3" Bottom Outlet, Nikaloy Top	1,830.34	136.87
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0054	EA		5" x 13" Floor Drain With 4" Bottom Outlet, Nikaloy Top	1,858.36	150.93
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0055	EA		5" x 16-3/4" Floor Drain With 2" Bottom Outlet, Nikaloy Top	1,898.84	123.54
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0056	EA		5" x 16-5/8" Floor Drain With 3" Bottom Outlet, Nikaloy Top	1,925.48	136.87
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0057	EA		5" x 16-3/4" Floor Drain With 4" Bottom Outlet, Nikaloy Top	1,953.50	150.93
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0058	EA		5" x 21" Floor Drain With 2" Bottom Outlet, Nikaloy Top	2,636.17	123.54
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0059	EA		5" x 21" Floor Drain With 3" Bottom Outlet, Nikaloy Top	2,662.81	136.87
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0060	EA		5" x 21" Floor Drain With 4" Bottom Outlet, Nikaloy Top	2,690.83	150.93
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0061	EA		5" x 9" Floor Drain With 2" Bottom Outlet, Bronze Top	1,309.51	123.54
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0062	EA		5" x 9" Floor Drain With 3" Bottom Outlet, Bronze Top	1,336.15	136.87
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0063	EA		5" x 9" Floor Drain With 4" Bottom Outlet, Bronze Top	1,364.17	150.93
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0064	EA		5" x 13" Floor Drain With 2" Bottom Outlet, Bronze Top	1,658.35	123.54
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0065	EA		5" x 13" Floor Drain With 3" Bottom Outlet, Bronze Top	1,684.99	136.87
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0066	EA		5" x 13" Floor Drain With 4" Bottom Outlet, Bronze Top	1,713.01	150.93
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0067	EA		5" x 16-3/4" Floor Drain With 2" Bottom Outlet, Bronze Top	1,753.49	123.54
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0068	EA		5" x 16-5/8" Floor Drain With 3" Bottom Outlet, Bronze Top	1,780.13	136.87
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0069	EA		5" x 16-3/4" Floor Drain With 4" Bottom Outlet, Bronze Top	1,808.15	150.93
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0070	EA		5" x 21" Floor Drain With 2" Bottom Outlet, Bronze Top	2,353.39	123.54
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0071	EA		5" x 21" Floor Drain With 3" Bottom Outlet, Bronze Top	2,380.03	136.87
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0072	EA		5" x 21" Floor Drain With 4" Bottom Outlet, Bronze Top	2,408.05	150.93
			For Sediment Bucket, Add	22.50	
			For Vandal Proof Screws, Add	11.00	
			For Rough Bronze Body, Add	120.94	
22 13 19 13-0073			Funnel Type Floor Drains (22 13 19 13)		
22 13 19 13-0074	EA		7" Diameter Floor Drain With 4" Round Funnel With 1-1/2" Outlet, Bronze Top	1,317.40	110.30
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0075	EA		7" Diameter Floor Drain With 4" Round Funnel With 2" Outlet, Bronze Top	1,343.86	123.54
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0076	EA		7" Diameter Floor Drain With 4" Round Funnel With 3" Outlet, Bronze Top	1,370.21	136.77
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0077	EA		7" Diameter Floor Drain With 4" Round Funnel With 4" Outlet, Bronze Top	1,398.52	150.93
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0078	EA		7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 2" Outlet, Nikaloy Top	1,938.48	123.54
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0079	EA		7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 3" Outlet, Nikaloy Top	1,964.83	136.77
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0080	EA		7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 4" Outlet, Nikaloy Top	1,993.14	150.93
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	
22 13 19 13-0081	EA		7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 2" Outlet, Bronze Top	1,835.41	123.54
			For Galvanized Cast Iron Parts, Add	105.00	
			For Satin Finish Bronze Top, Deduct	-19.50	
			For Vandal Proof Screws, Add	11.00	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0082	EA	7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 3" Outlet, Bronze Top	1,861.76	136.77
		For Galvanized Cast Iron Parts, Add	105.00	
		For Satin Finish Bronze Top, Deduct	-19.50	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0083	EA	7" Diameter Floor Drain With 9" x 3-1/2" Oval Funnel With 4" Outlet, Bronze Top	1,890.07	150.93
		For Galvanized Cast Iron Parts, Add	105.00	
		For Satin Finish Bronze Top, Deduct	-19.50	
		For Vandal Proof Screws, Add	11.00	
22 13 19 13-0084 Floor Drain With Sediment Bucket Bottom Outlet^(22 13 19 13)				
22 13 19 13-0085	EA	12-5/8" Round Floor Drain With Sediment Bucket, 2" Bottom Outlet, Satin Bronze Top, Without Trap	2,828.95	110.30
		For Primer Tap, Add	33.50	
		For Vandal Proof Screws, Add	30.50	
		For Galvanized Cast Iron Parts, Add	247.00	
22 13 19 13-0086	EA	12-5/8" Round Floor Drain With Sediment Bucket, 3" Bottom Outlet, Satin Bronze Top, Without Trap	2,855.51	123.54
		For Primer Tap, Add	33.50	
		For Vandal Proof Screws, Add	30.50	
		For Galvanized Cast Iron Parts, Add	247.00	
22 13 19 13-0087	EA	12-5/8" Round Floor Drain With Sediment Bucket, 4" Bottom Outlet, Satin Bronze Top, Without Trap	2,881.86	136.77
		For Primer Tap, Add	33.50	
		For Vandal Proof Screws, Add	30.50	
		For Galvanized Cast Iron Parts, Add	247.00	
22 13 19 13-0088	EA	12-5/8" Round Floor Drain With Sediment Bucket, 5" Bottom Outlet, Satin Bronze Top, Without Trap	2,910.17	150.93
		For Primer Tap, Add	33.50	
		For Vandal Proof Screws, Add	30.50	
		For Galvanized Cast Iron Parts, Add	247.00	
22 13 19 13-0089	EA	12-5/8" Round Floor Drain With Sediment Bucket, 6" Bottom Outlet, Satin Bronze Top, Without Trap	2,939.38	165.50
		For Primer Tap, Add	33.50	
		For Vandal Proof Screws, Add	30.50	
		For Galvanized Cast Iron Parts, Add	247.00	
22 13 19 13-0090	EA	12" x 12" Floor Drain With Sediment Bucket, 2" Bottom Outlet, Nikaloy Top, Heavy Duty Loose-Set Cast Iron Grate	3,056.36	123.54
		For Vandal Proof Screws, Add	29.50	
		For Primer Tap, Add	31.00	
		For Aluminum Bucket, Add	77.50	
		For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0091	EA	12" x 12" Floor Drain With Sediment Bucket, 3" Bottom Outlet, Nikaloy Top, Heavy Duty Loose-Set Cast Iron Grate	3,083.00	136.87
		For Vandal Proof Screws, Add	29.50	
		For Primer Tap, Add	31.00	
		For Aluminum Bucket, Add	77.50	
		For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0092	EA	12" x 12" Floor Drain With Sediment Bucket, 4" Bottom Outlet, Nikaloy Top, Heavy Duty Loose-Set Cast Iron Grate	3,111.02	150.93
		For Vandal Proof Screws, Add	29.50	
		For Primer Tap, Add	31.00	
		For Aluminum Bucket, Add	77.50	
		For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0093	EA	12" x 12" Floor Drain With Sediment Bucket, 6" Bottom Outlet, Nikaloy Top, Heavy Duty Loose-Set Cast Iron Grate	3,140.23	165.50
		For Vandal Proof Screws, Add	29.50	
		For Primer Tap, Add	31.00	
		For Aluminum Bucket, Add	77.50	
		For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0094	EA	12" x 12" Floor Drain With Sediment Bucket, 2" Bottom Outlet, Cast Iron Top, Heavy Duty Loose-Set Cast Iron Grate	1,864.48	123.54
		For Vandal Proof Screws, Add	29.50	
		For Primer Tap, Add	31.00	
		For Aluminum Bucket, Add	77.50	
		For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0095	EA	12" x 12" Floor Drain With Sediment Bucket, 3" Bottom Outlet, Cast Iron Top, Heavy Duty Loose-Set Cast Iron Grate	1,891.12	136.87
		For Vandal Proof Screws, Add	29.50	
		For Primer Tap, Add	31.00	
		For Aluminum Bucket, Add	77.50	
		For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0096	EA	12" x 12" Floor Drain With Sediment Bucket, 4" Bottom Outlet, Cast Iron Top, Heavy Duty Loose-Set Cast Iron Grate	1,919.14	150.93
		For Vandal Proof Screws, Add	29.50	
		For Primer Tap, Add	31.00	
		For Aluminum Bucket, Add	77.50	
		For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0097	EA	12" x 12" Floor Drain With Sediment Bucket, 6" Bottom Outlet, Cast Iron Top, Heavy Duty Loose-Set Cast Iron Grate	1,948.35	165.50
		For Vandal Proof Screws, Add	29.50	
		For Primer Tap, Add	31.00	
		For Aluminum Bucket, Add	77.50	
		For Galvanized Cast Iron Parts, Add	273.75	
22 13 19 13-0098	EA	12" x 12" Floor Drain With Sediment Bucket, 2" Bottom Outlet, Bronze Top, Heavy Duty Loose-Set Cast Iron Grate	2,850.23	123.54
		For Vandal Proof Screws, Add	29.50	
		For Primer Tap, Add	31.00	
		For Aluminum Bucket, Add	77.50	
		For Galvanized Cast Iron Parts, Add	273.75	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST
22 13 19 13-0099	EA	12" x 12" Floor Drain With Sediment Bucket, 3" Bottom Outlet, Bronze Top, Heavy Duty Loose-Set Cast Iron Grate For Vandal Proof Screws, Add For Primer Tap, Add For Aluminum Bucket, Add For Galvanized Cast Iron Parts, Add 2876.87		136.87	
22 13 19 13-0100	EA	12" x 12" Floor Drain With Sediment Bucket, 4" Bottom Outlet, Bronze Top, Heavy Duty Loose-Set Cast Iron Grate For Vandal Proof Screws, Add For Primer Tap, Add For Aluminum Bucket, Add For Galvanized Cast Iron Parts, Add 2904.89		150.93	
22 13 19 13-0101	EA	12" x 12" Floor Drain With Sediment Bucket, 6" Bottom Outlet, Bronze Top, Heavy Duty Loose-Set Cast Iron Grate For Vandal Proof Screws, Add For Primer Tap, Add For Aluminum Bucket, Add For Galvanized Cast Iron Parts, Add 2934.10		165.50	
22 13 19 13-0102		Other Drains (22 13 19 13)			
22 13 19 13-0103		Shower Drains (22 13 19 13-0102)			
22 13 19 13-0104	EA	4-1/4" Stainless Steel Shower Drain Strainer Note: Includes two 2-5/8" screws.	50.74	11.14	
22 13 19 13-0105	EA	4-1/4" Brass Shower Drain Strainer Note: Includes two 2-5/8" screws.	56.69	11.14	
22 13 19 13-0106	EA	4" Brass Shower Drain For Polyvinyl Chloride (PVC) Pipe Note: Fits over 2" polyvinyl chloride (PVC) pipe or inside 3" polyvinyl chloride (PVC) pipe.	116.14	22.29	
22 13 19 13-0107	EA	4" Chrome Finish, Threaded Brass Shower Drain And Gasket Note: For 2" pipe. Kohler K-9132.	150.33	22.29	
22 13 19 13-0108		Acid Resistant Floor Drains (22 13 19 13-0102)			
22 13 19 13-0109	EA	9" Diameter Floor Drain With 2" Bottom Outlet, Acid Resistant Top For Galvanized Cast Iron Parts, Add For Primer Tap, Add For Vandal Proof Screws, Add 1327.87		110.30	
22 13 19 13-0110	EA	9" Diameter Floor Drain With 3" Bottom Outlet, Acid Resistant Top For Galvanized Cast Iron Parts, Add For Primer Tap, Add For Vandal Proof Screws, Add 1354.43		123.54	
22 13 19 13-0111	EA	9" Diameter Floor Drain With 4" Bottom Outlet, Acid Resistant Top For Galvanized Cast Iron Parts, Add For Primer Tap, Add For Vandal Proof Screws, Add 1380.78		136.77	
22 13 19 13-0112		Rotary And Lever Drains (22 13 19 13-0102)			
22 13 19 13-0113	EA	Lever Drain, 1-1/2" Drain, 3" Sink Opening.....	258.83	74.39	
22 13 19 13-0114	EA	Lever Drain, 2" Drain, 3" Sink Opening.....	274.22	82.08	
22 13 19 13-0115	EA	Lever Drain, 1-1/2" Drain, 3-1/2" Sink Opening	258.83	74.39	
22 13 19 13-0116	EA	Lever Drain, 2" Drain, 3-1/2" Sink Opening	274.22	82.08	
22 13 19 13-0117	EA	Twist Drain, 1-1/2" Drain, 3" Sink Opening	258.83	74.39	
22 13 19 13-0118	EA	Twist Drain, 2" Drain, 3" Sink Opening	274.22	82.08	
22 13 19 13-0119	EA	Twist Drain, 1-1/2" Drain, 3-1/2" Sink Opening	258.83	74.39	
22 13 19 13-0120	EA	Twist Drain, 2" Drain, 3-1/2" Sink Opening	274.22	82.08	
22 13 19 13-0121	EA	Rotary Twist Drain, 1-1/2" To 2" Drain, 3-1/2" Sink Opening (Fisher 16100).....	359.12	82.08	
22 13 19 13-0122		Floor Receptor (22 13 19 13)			
22 13 19 13-0123		9" Diameter Round Shallow Receptor (22 13 19 13-0122) Note: With slotted medium duty grate, aluminum secondary strainer and white acid resisting coated interior and top.			
22 13 19 13-0124	EA	9" Diameter x 3" Shallow Cast Iron Floor Receptor, 2" Drain Connection For Flange With Seepage Holes, Add For Flange With Seepage Holes And Clamp Collar, Add For Trap Primer Connection, Add For Full Grate With 2" (50 mm) Square Center Opening, Add For Vandal Proof Secured Grate, Add For White Acid Resistant Bucket, Add For Stainless Steel Liner For Bucket, Add 1632.09		123.64	
22 13 19 13-0125	EA	9" Diameter x 3" Shallow Cast Iron Floor Receptor, 3" Drain Connection For Flange With Seepage Holes, Add For Flange With Seepage Holes And Clamp Collar, Add For Trap Primer Connection, Add For Full Grate With 2" (50 mm) Square Center Opening, Add For Vandal Proof Secured Grate, Add For White Acid Resistant Bucket, Add For Stainless Steel Liner For Bucket, Add 1658.85		136.98	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 13-0126	EA		9" Diameter x 3" Shallow Cast Iron Floor Receptor, 4" Drain Connection	1,686.58	150.93
			For Flange With Seepage Holes, Add	58.50	
			For Flange With Seepage Holes And Clamp Collar, Add	97.00	
			For Trap Primer Connection, Add	38.00	
			For Full Grate With 2" (50 mm) Square Center Opening, Add	36.00	
			For Vandal Proof Secured Grate, Add	33.50	
			For White Acid Resistant Bucket, Add	47.00	
			For Stainless Steel Liner For Bucket, Add	62.50	
22 13 19 13-0127			Square Top Floor Receptors (22 13 19 13-0122)		
			Note: With acid resistant coating.		
22 13 19 13-0128	EA		8" x 8" Floor Drain With 1-1/2" Bottom Outlet, Acid Resistant Top	1,933.16	110.30
			For Flange With Seepage Holes, Add	37.50	
			For Flange With Seepage Holes And Clamp Collar, Add	69.00	
			For Trap Primer Connection, Add	39.50	
			For Full Grate With 2" Square Center Opening, Add	36.00	
			For Vandal Proof Secured Grate, Add	15.50	
			For White Acid Resistant Bucket, Add	88.00	
			For Stainless Steel Liner For Bucket, Add	97.00	
22 13 19 13-0129	EA		8" x 8" Floor Drain With 2" Bottom Outlet, Acid Resistant Top	1,959.74	123.64
			For Flange With Seepage Holes, Add	37.50	
			For Flange With Seepage Holes And Clamp Collar, Add	69.00	
			For Trap Primer Connection, Add	39.50	
			For Full Grate With 2" Square Center Opening, Add	36.00	
			For Vandal Proof Secured Grate, Add	15.50	
			For White Acid Resistant Bucket, Add	88.00	
			For Stainless Steel Liner For Bucket, Add	97.00	
22 13 19 13-0130	EA		8" x 8" Floor Drain With 3" Bottom Outlet, Acid Resistant Top	1,985.97	136.77
			For Flange With Seepage Holes, Add	37.50	
			For Flange With Seepage Holes And Clamp Collar, Add	69.00	
			For Trap Primer Connection, Add	39.50	
			For Full Grate With 2" Square Center Opening, Add	36.00	
			For Vandal Proof Secured Grate, Add	15.50	
			For White Acid Resistant Bucket, Add	88.00	
			For Stainless Steel Liner For Bucket, Add	97.00	
22 13 19 13-0131	EA		8" x 8" Floor Drain With 4" Bottom Outlet, Acid Resistant Top	2,014.28	150.93
			For Flange With Seepage Holes, Add	37.50	
			For Flange With Seepage Holes And Clamp Collar, Add	69.00	
			For Trap Primer Connection, Add	39.50	
			For Full Grate With 2" Square Center Opening, Add	36.00	
			For Vandal Proof Secured Grate, Add	15.50	
			For White Acid Resistant Bucket, Add	88.00	
			For Stainless Steel Liner For Bucket, Add	97.00	
22 13 19 13-0132			Floor Drain Accessories (22 13 19 13)		
22 13 19 13-0133	EA		3" Trap Guard Floor Drain Insert (ProVent TG3H)	110.10	12.83
			Note: Prevents emission of sewer gases.		
22 13 19 13-0134	EA		2" Trap Guard Drain Insert For Cast Iron Or Polyvinyl Chloride (PVC) Pipe (ProVent TG22)	88.99	12.83
			Note: Prevents emission of sewer gases.		
22 13 19 13-0135	EA		3" Trap Guard Drain Insert For Cast Iron Or Polyvinyl Chloride (PVC) Pipe (ProVent TG33)	97.43	12.83
			Note: Prevents emission of sewer gases.		
22 13 19 13-0136	EA		3" Trap Guard Drain Insert For 4" Cast Iron Or Polyvinyl Chloride (PVC) Pipe (ProVent TG34IP)	118.54	12.83
			Note: Prevents emission of sewer gases.		
22 13 19 13-0137	EA		3" Trap Guard Drain Insert For 4" Hub (ProVent TG34TP)	105.88	12.83
			Note: Prevents emission of sewer gases.		
22 13 19 13-0138	EA		2" Quad Close Trap Seal, For Drain Body Or Strainer Throat (JRSmith 2692-02)	152.56	12.83
			Note: Prevents emission of sewer gases.		
22 13 19 13-0139	EA		3" Quad Close Trap Seal, For Drain Body Or Strainer Throat (JRSmith 2692-03)	169.55	12.83
			Note: Prevents emission of sewer gases.		
22 13 19 13-0140	EA		4" Quad Close Trap Seal, For Drain Body Or Strainer Throat (JRSmith 2692-04)	211.71	12.83
			Note: Prevents emission of sewer gases.		
22 13 19 26			Grease Removal Devices (22 13 19)		
22 13 19 26-0001			Manual Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26)		
			Note: Includes internal air relief, visible double wall trap, removable baffle, gasketed non-skid cover bearing PDI seal of approval and flow control fitting.		
22 13 19 26-0002			Standard Manual Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26-0001)		
			Note: Josam 60100H/60210A, Smith 8100/8400, Wade 5100, or Zurn Z1173/Z1170 series.		
22 13 19 26-0003	EA		7 GPM, 14 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor	1,292.76	76.96
			Note: Josam 60102H.		
			For Steel Enclosure Cabinet With Non-Skid Cover, Add	1,312.31	
22 13 19 26-0004	EA		10 GPM, 20 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor	1,508.78	173.15
			Note: Josam 60103H.		
			For Flange And Clamp Device, Add	375.59	
			For Steel Enclosure Cabinet With Non-Skid Cover, Add	1,386.59	
22 13 19 26-0005	EA		15 GPM, 30 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor	2,148.59	192.38
			Note: Josam 60104H.		
			For Flange And Clamp Device, Add	388.42	
			For Steel Enclosure Cabinet With Non-Skid Cover, Add	1,514.30	



		Plumbing	22
		Plumbing Piping	22 10
		Facility Sanitary Sewerage	22 13

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 26-0006	EA	20 GPM, 40 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60105H. <i>For Flange And Clamp Device, Add</i> <i>For Steel Enclosure Cabinet With Non-Skid Cover, Add</i>	2,598.04 401.25 1,636.59	211.62
22 13 19 26-0007	EA	25 GPM, 50 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60106H. <i>For Flange And Clamp Device, Add</i> <i>For Steel Enclosure Cabinet With Non-Skid Cover, Add</i>	2,909.61 444.47 1,704.14	230.86
22 13 19 26-0008	EA	35 GPM, 70 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60107H. <i>For Flange And Clamp Device, Add</i> <i>For Steel Enclosure Cabinet With Non-Skid Cover, Add</i>	3,575.08 481.32 1,875.10	269.34
22 13 19 26-0009	EA	50 GPM, 100 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60108H. <i>For Flange And Clamp Device, Add</i> <i>For Steel Enclosure Cabinet With Non-Skid Cover, Add</i>	4,669.43 547.93 1,999.02	307.81
22 13 19 26-0010	EA	75 GPM, 150 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60109H. <i>For Flange And Clamp Device, Add</i>	9,214.62 774.86	346.29
22 13 19 26-0011	EA	100 GPM, 200 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60110H. <i>For Flange And Clamp Device, Add</i>	10,435.47 902.23	441.34
22 13 19 26-0012	EA	150 GPM, 300 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60213A. <i>For Flange And Clamp Device, Add</i>	12,859.33 1,238.77	706.15
22 13 19 26-0013	EA	200 GPM, 400 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60214A. <i>For Flange And Clamp Device, Add</i>	18,466.07 1,485.74	882.69
22 13 19 26-0014	EA	250 GPM, 500 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60215A. <i>For Flange And Clamp Device, Add</i>	21,538.13 1,916.39	1,059.22
22 13 19 26-0015	EA	350 GPM, 700 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60216A. <i>For Flange And Clamp Device, Add</i>	27,999.73 2,271.84	1,235.76
22 13 19 26-0016	EA	500 GPM, 1,000 LB Capacity Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60217A. <i>For Flange And Clamp Device, Add</i>	36,243.28 2,662.81	1,412.30
22 13 19 26-0017		Low Profile Manual Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26-0001) Note: Josam 60110A, Smith 8100, Wade 5100LR, or Zurn Z1171 series.		
22 13 19 26-0018	EA	20 GPM, 40 LB Capacity Low Profile Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60115A.	3,753.42	211.62
22 13 19 26-0019	EA	35 GPM, 70 LB Capacity Low Profile Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Josam 60117A.	4,828.93	269.34
22 13 19 26-0020	EA	50 GPM, 100 LB Capacity Low Profile Manual Cleaning Epoxy Coated Steel Grease Interceptor Note: Smith 8150.	7,983.86	307.81
22 13 19 26-0021		Semi Automatic Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26) Note: Includes internal air relief, visible double wall trap, removable baffle, gasketed non-skid cover bearing PDI seal of approval, grease recovery cone, flexible hose, grease draw off valve and flow control fitting.		
22 13 19 26-0022		Standard Semi Automatic Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26-0021) Note: Josam 60100-SA, Smith 8300GTX, Wade 5100JCX, or Zurn Z1173-TD series.		
22 13 19 26-0023	EA	7 GPM, 14 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60102-SA. <i>For Steel Enclosure Cabinet With Non-Skid Cover, Add</i>	3,303.01 1,312.31	76.96
22 13 19 26-0024	EA	10 GPM, 20 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60103-SA. <i>For Steel Enclosure Cabinet With Non-Skid Cover, Add</i>	3,885.19 1,386.59	173.15
22 13 19 26-0025	EA	15 GPM, 30 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60104-SA. <i>For Steel Enclosure Cabinet With Non-Skid Cover, Add</i>	4,150.09 1,514.30	192.38
22 13 19 26-0026	EA	20 GPM, 40 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60105-SA. <i>For Steel Enclosure Cabinet With Non-Skid Cover, Add</i>	5,067.82 1,636.59	211.62
22 13 19 26-0027	EA	25 GPM, 50 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60106-SA. <i>For Steel Enclosure Cabinet With Non-Skid Cover, Add</i>	6,112.44 1,704.14	230.86
22 13 19 26-0028	EA	35 GPM, 70 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60107-SA. <i>For Steel Enclosure Cabinet With Non-Skid Cover, Add</i>	6,316.20 1,875.10	269.34
22 13 19 26-0029	EA	50 GPM, 100 LB Capacity Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60108-SA. <i>For Steel Enclosure Cabinet With Non-Skid Cover, Add</i>	7,209.96 1,999.02	307.81
22 13 19 26-0030		Low Profile Semi Automatic Cleaning Epoxy Coated Steel Grease Interceptor (22 13 19 26-0021) Note: Josam 60115A-SA, Smith 8100GTX, or Zurn Z1171-TD series.		
22 13 19 26-0031	EA	35 GPM, 70 LB Capacity Low Profile Semi Automatic Epoxy Coated Steel Grease Interceptor Note: Josam 60115A-SA.	8,498.58	269.34

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 26-0032		Automatic Cleaning Stainless Steel Grease Interceptor (22 13 19 26)		
22 13 19 26-0033	EA	20 GPM, 69 LB Capacity Automatic Cleaning Stainless Steel Grease Interceptor..... Note: Includes stainless steel screen basket, plastic grease container with lid and control box with digital timer (Lowe Engineering 20 Greasestopper).	7,220.93	211.62
22 13 19 26-0034	EA	25 GPM, 91 LB Capacity Automatic Cleaning Stainless Steel Grease Interceptor..... Note: Includes stainless steel screen basket, plastic grease container with lid and control box with digital timer (Lowe Engineering 25 Greasestopper).	8,404.10	230.86
22 13 19 26-0035	EA	35 GPM, 70 LB Capacity, 110 Volt, Automatic Cleaning Stainless Steel Grease Trap/Removal Device (Guardian GGX35)	7,191.67	269.34
22 13 19 26-0036		Precast Concrete Grease Interceptor (22 13 19 26)		
		Note: Includes two access manholes, cast iron non-skid surface, lift hole, frame and cover for heavy-traffic.		
22 13 19 26-0037	EA	1,000 Gallon Pre-Cast Grease Interceptor.....	4,443.20	406.20
22 13 19 26-0038	EA	1,250 Gallon Pre-Cast Grease Interceptor.....	5,070.85	406.20
22 13 19 26-0039	EA	1,500 Gallon Pre-Cast Grease Interceptor.....	5,756.01	464.37
22 13 19 26-0040	EA	2,000 Gallon Pre-Cast Grease Interceptor.....	6,577.98	655.82
22 13 19 26-0041	EA	2,500 Gallon Pre-Cast Grease Interceptor.....	7,437.74	882.35
22 13 19 26-0042	EA	4,000 Gallon Pre-Cast Grease Interceptor.....	11,120.36	1,160.89
22 13 19 26-0043	EA	5,000 Gallon Pre-Cast Grease Interceptor.....	14,366.87	1,903.67
22 13 19 26-0044		Coated Steel Manual Oil Interceptor (22 13 19 26)		
		Note: Includes internal air relief, and flow control fitting.		
22 13 19 26-0045	EA	10 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	10,064.93	293.03
22 13 19 26-0046	EA	15 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	13,700.32	348.19
22 13 19 26-0047	EA	20 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	16,572.73	428.41
22 13 19 26-0048	EA	25 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	17,997.73	464.06
22 13 19 26-0049	EA	35 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	21,766.42	506.40
22 13 19 26-0050	EA	50 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	29,026.57	557.09
22 13 19 26-0051	EA	75 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	49,624.64	641.28
22 13 19 26-0052	EA	100 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	53,991.75	789.03
22 13 19 26-0053	EA	150 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	66,631.93	855.22
22 13 19 26-0054	EA	200 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	93,776.58	1,026.04
22 13 19 26-0055	EA	250 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	108,419.72	1,103.00
22 13 19 26-0056	EA	350 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	136,854.86	1,315.40
22 13 19 26-0057	EA	400 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	166,796.32	1,077.87
22 13 19 26-0058	EA	500 GPM, Oil Interceptor, Coated Steel, Manual Draw-Off.....	197,570.96	1,282.56
22 13 19 33		Backwater Valves (22 13 19)		
22 13 19 33-0001		Cast Iron Body Terminal Backwater Valves (22 13 19 33)		
22 13 19 33-0002	EA	2" Cast Iron Body Terminal Backwater Valve	585.19	29.44
22 13 19 33-0003	EA	3" Cast Iron Body Terminal Backwater Valve	596.48	37.04
22 13 19 33-0004	EA	4" Cast Iron Body Terminal Backwater Valve	862.58	49.25
22 13 19 33-0005	EA	6" Cast Iron Body Terminal Backwater Valve	2,360.08	70.72
22 13 19 33-0006	EA	8" Cast Iron Body Terminal Backwater Valve	2,882.87	93.08
22 13 19 33-0007	EA	10" Cast Iron Body Terminal Backwater Valve	8,417.42	114.83
22 13 19 33-0008	EA	12" Cast Iron Body Terminal Backwater Valve	9,526.24	148.93
22 13 19 33-0009		Cast Iron Backwater Sewer Line Valve (22 13 19 33)		
		Note: Offset type with bronze swing check assembly, threaded bronze cover, and bell and spigot connections.		
22 13 19 33-0010	EA	2" Backwater Sewer Valve, Cast Iron, Offset Type With Bronze Swing Check Assembly	1,437.23	70.19
22 13 19 33-0011	EA	3" Backwater Sewer Valve, Cast Iron, Offset Type With Bronze Swing Check Assembly	2,204.58	85.16
22 13 19 33-0012	EA	4" Backwater Sewer Valve, Cast Iron, Offset Type With Bronze Swing Check Assembly	2,723.87	109.79
22 13 19 33-0013	EA	6" Backwater Sewer Valve, Cast Iron, Offset Type With Bronze Swing Check Assembly	3,853.52	128.49
22 13 19 33-0014	EA	8" Backwater Sewer Valve, Cast Iron, Offset Type With Bronze Swing Check Assembly	5,358.13	152.26
22 13 19 33-0015		Cast Iron, Straight Through Shear Gate, Swing Check Backwater Valve (22 13 19 33)		
		Note: Offset type with bronze, manually operated shear gate, non-rising stem, and bell and spigot connections.		
22 13 19 33-0016	EA	3" Cast Iron Body, Straight Through Shear Gate, Swing Check Backwater Valve.....	3,979.01	111.13
22 13 19 33-0017	EA	4" Cast Iron Body, Straight Through Shear Gate, Swing Check Backwater Valve.....	4,034.00	147.75
22 13 19 33-0018	EA	5" Cast Iron Body, Straight Through Shear Gate, Swing Check Backwater Valve.....	5,899.45	190.30
22 13 19 33-0019	EA	6" Cast Iron Body, Straight Through Shear Gate, Swing Check Backwater Valve.....	5,932.52	212.16
22 13 19 33-0020		Polyvinyl Chloride (PVC) Backwater Sewer Line Valve (22 13 19 33)		
		Note: Oatey.		
22 13 19 33-0021	EA	3" Polyvinyl Chloride (PVC) Backwater Sewer Valve (Oatey 43900).....	138.10	37.04
22 13 19 33-0022	EA	4" Polyvinyl Chloride (PVC) Backwater Sewer Valve (Oatey 43904).....	164.91	49.25
22 13 19 33-0023	EA	6" Polyvinyl Chloride (PVC) Backwater Sewer Valve (Oatey 43908).....	494.20	70.72
22 13 19 33-0024		Polyvinyl Chloride (PVC) Extendable Backwater Valves (22 13 19 33)		
22 13 19 33-0025	EA	3" Polyvinyl Chloride (PVC) Extendable Backwater Sewer Valve (Rectorseal Clean Check)..... Note: Includes valve body, flapper assembly and collar.	326.94	74.08



Plumbing			22
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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 19 33-0026	EA		4" Polyvinyl Chloride (PVC) Extendable Backwater Sewer Valve (Rectorseal Clean Check)..... Note: Includes valve body, flapper assembly and collar.	435.36	98.50
22 13 19 33-0027	EA		6" Polyvinyl Chloride (PVC) Extendable Backwater Sewer Valve (Rectorseal Clean Check)..... Note: Includes valve body, flapper assembly and collar.	762.76	141.43
22 13 19 36 Air-Admittance Valves (22 13 19)					
22 13 19 36-0001			Acrylonitrile Butadiene Styrene (ABS) And Polyvinyl Chloride (PVC) Automatic Drain Vent (22 13 19 36)		
22 13 19 36-0002	EA		1-1/4", 1-1/2" And 2" Acrylonitrile Butadiene Styrene (ABS) Or Polyvinyl Chloride (PVC) Automatic Drain Vent, Mini Vent	253.89	14.37
22 13 19 36-0003	EA		2", 3" And 4" Acrylonitrile Butadiene Styrene (ABS) Or Polyvinyl Chloride (PVC) Automatic Drain Vent, Maxi Vent	304.29	14.37
22 13 23 Sanitary Waste Interceptors (22 13)					
22 13 23 00-0001			Sediment Bucket Solids Interceptors (22 13 23)		
22 13 23 00-0002	EA		1-1/2" Or 2" Top Access, 15 GPM, Composite With Removable PVC Sediment Bucket Solids Interceptor (Zurn 1180)..... Note: Replaces P-Trap. Recovers all types of solids from precious metal particles, plaster, clay or similar materials.	1,275.92	145.29
22 13 23 00-0003	EA		1-1/2" Or 2" Bottom Access, 15 GPM, Composite With Removable PVC Sediment Bucket Solids Interceptor (Zurn 1184)..... Note: Replaces P-Trap. Recovers all types of solids from precious metal particles, plaster, clay or similar materials.	1,277.53	145.29
22 13 23 00-0004	EA		1-1/2" Or 2" Top Access, Acid Resistant Coated Steel (Inside And Outside), Aluminum Cover, Removable Stainless Steel Sediment Bucket Solids Interceptor (Jay R. Smith 8714 ARI0)..... Note: On floor mount. Replaces P-Trap. Recovers all types of solids from precious metal particles, plaster, clay or similar materials.	1,800.69	145.29
22 13 23 00-0005	EA		1-1/2" Or 2" Bottom Access, 15 GPM, Acid Resistant Coated Cast Iron, Aluminum Strainer, Removable Stainless Steel Screens, Sediment Bucket Solids Interceptor (Jay R. Smith 8730-ARI0)..... Note: Replaces P-Trap. Recovers all types of solids from precious metal particles, plaster, clay or similar materials.	1,800.69	145.29
22 13 23 00-0006	EA		1-1/2" Or 2" Top Access, Acid Resistant Coated Cast Aluminum (Inside And Outside) Removable Stainless Steel Screen, Sediment Bucket Solids Interceptor (Josam 61030)..... Note: Replaces P-Trap. Recovers all types of solids from precious metal particles, plaster, clay or similar materials.	1,919.12	145.29
22 13 23 00-0007			Solid Interceptors, Cast Iron With Internal Deep Seal Trap (22 13 23)		
22 13 23 00-0008	EA		1-1/2" Inlet Cast Iron Solid Interceptor, Painted Enamel..... For Stainless Steel Bucket, Add	321.92 175.00	49.69
22 13 23 00-0009	EA		2" Inlet Cast Iron Solid Interceptor, Painted Enamel..... For Stainless Steel Bucket, Add	328.28 175.00	52.93
22 13 23 00-0010			Sediment Strainers (22 13 23)		
22 13 23 00-0011	EA		2" Strainer, Pump Suction Side	171.67	67.70
22 13 29 Sanitary Sewerage Pumps (22 13)					
Note: Includes extra set of gaskets, bearings and seals.					
22 13 29 13 Wet-Pit-Mounted, Vertical Sewerage Pumps (22 13 29)					
22 13 29 13-0001			Vertical Column, Flanged Discharge, Non-Clog Sump Or Drainage Pumps (Crane-Deeming Series 4500) (22 13 29 13) Note: Mounted on steel support plate. Excludes float and float switch, and sump cover See CSI section 22 13 29 13-0030 for float and float switch, 22 13 29 13-0034 for sump cover.		
22 13 29 13-0002			1-1/2" Solids 1,750 RPM Vertical Sump Or Drainage Pumps (22 13 29 13-0001)		
22 13 29 13-0003	EA		1/2 HP, Up To 75 GPM Sump Or Drainage Pump, Vertical Non-Clog, 2-1/2" Discharge Pipe, 1,750 RPM	7,352.67	1,230.85
22 13 29 13-0004	EA		3/4 HP, Up To 125 GPM Sump Or Drainage Pump, Vertical Non-Clog, 2-1/2" Discharge Pipe, 1,750 RPM	7,653.29	1,230.85
22 13 29 13-0005	EA		1 HP, Up To 150 GPM Sump Or Drainage Pump, Vertical Non-Clog, 2-1/2" Discharge Pipe, 1,750 RPM	7,953.92	1,230.85
22 13 29 13-0006	EA		1-1/2 HP, Up To 150 GPM Sump Or Drainage Pump, Vertical Non-Clog, 2-1/2" Discharge Pipe, 1,750 RPM	8,240.67	1,230.85
22 13 29 13-0007			2" Solids 1,750 RPM Vertical Sump Or Drainage Pumps (22 13 29 13-0001)		
22 13 29 13-0008	EA		3/4 HP, Up To 75 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	8,185.17	1,230.85
22 13 29 13-0009	EA		1 HP, Up To 100 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	8,300.79	1,230.85
22 13 29 13-0010	EA		2 HP, Up To 200 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	8,381.73	1,230.85
22 13 29 13-0011	EA		3 HP, Up To 300 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	8,936.73	1,230.85
22 13 29 13-0012	EA		5 HP, Up To 400 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	9,480.17	1,230.85
22 13 29 13-0013	EA		7-1/2 HP, Up To 500 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	10,312.67	1,230.85
22 13 29 13-0014	EA		10 HP, Up To 600 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	11,145.17	1,230.85
22 13 29 13-0015	EA		15 HP, Up To 600 GPM Sump Or Drainage Pump, Vertical Non-Clog, 3" Discharge Pipe, 1,750 RPM	12,791.96	1,637.98
22 13 29 13-0016			3" Solids 1,750 RPM Vertical Sump Or Drainage Pumps (22 13 29 13-0001)		
22 13 29 13-0017	EA		2 HP, Up To 300 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM	8,764.52	1,230.85
22 13 29 13-0018	EA		3 HP, Up To 400 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM	8,764.52	1,230.85
22 13 29 13-0019	EA		5 HP, Up To 500 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM	8,964.85	1,230.85



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 29 13-0020	EA	7-1/2 HP, Up To 700 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM	10,519.21	1,230.85
22 13 29 13-0021	EA	10 HP, Up To 800 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM.....	10,791.88	1,230.85
22 13 29 13-0022	EA	15 HP, Up To 900 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM.....	12,887.87	1,637.98
22 13 29 13-0023	EA	20 HP, Up To 900 GPM Sump Or Drainage Pump, Vertical Non-Clog, 4" Discharge Pipe, 1,750 RPM.....	13,581.62	1,637.98
22 13 29 13-0024		Extra Column Assemblies Addition, 5' Or Less (22 13 29 13-0001)		
22 13 29 13-0025	EA	2-1/2" Diameter x 5' Long Extra Column Assembly For vertical sewage pumps.....	544.22	
22 13 29 13-0026	EA	3" Diameter x 5' Long Extra Column Assembly For vertical sewage pumps.....	653.44	
22 13 29 13-0027	EA	4" Diameter x 5' Long Extra Column Assembly For vertical sewage pumps.....	730.37	
22 13 29 13-0028	EA	5" Diameter x 5' Long Extra Column Assembly For vertical sewage pumps.....	743.67	
22 13 29 13-0029	EA	6" Diameter x 5' Long Extra Column Assembly For vertical sewage pumps.....	834.84	
22 13 29 13-0030		Float Switches (22 13 29 13-0001)		
		Note: Copper coated floats, brass rods and stops and switch brackets.		
22 13 29 13-0031	EA	Float Switch Copper Coated Float, Add, General Purpose For vertical sewage pumps	489.13	
22 13 29 13-0032	EA	Float Switch Copper Coated Float, Add, Weather Proof For vertical sewage pumps	513.82	
22 13 29 13-0033	EA	Float Switch Copper Coated Float, Add, Explosion Proof For vertical sewage pumps	525.22	
22 13 29 13-0034		Square Or Round Steel Sump Covers (22 13 29 13-0001)		
22 13 29 13-0035	EA	24" Steel Sump Covers, Square Or Round.....	961.25	41.04
22 13 29 13-0036	EA	30" Steel Sump Covers, Square Or Round.....	1,063.93	46.17
22 13 29 13-0037	EA	36" Steel Sump Covers, Square Or Round.....	1,478.03	61.56
22 13 29 13-0038	EA	40" Steel Sump Covers, Square Or Round.....	2,156.83	71.83
22 13 29 13-0039	EA	42" Steel Sump Covers, Square Or Round.....	2,314.15	74.39
22 13 29 13-0040	EA	48" Steel Sump Covers, Square Or Round.....	2,476.05	76.96
22 13 29 13-0041	EA	54" Steel Sump Covers, Square Or Round.....	3,158.01	92.34
22 13 29 13-0042	EA	60" Steel Sump Covers, Square Or Round.....	4,293.48	102.60
22 13 29 13-0043	EA	72" Steel Sump Covers, Square Or Round.....	5,444.91	128.26
22 13 29 13-0044	EA	84" Steel Sump Covers, Square Or Round.....	6,936.39	141.08
22 13 29 16		Submersible Sewerage Pumps (22 13 29)		
22 13 29 16-0001		Submersible Sewage Pumps With Vortex Impeller (22 13 29 16-0001)		
22 13 29 16-0002		Submersible Single Seal Sewage Pumps With Cast Iron Vortex Impeller (22 13 29 16-0001)		
		Note: Includes 25' cord.		
22 13 29 16-0003	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 115 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,526.83	74.65
22 13 29 16-0004	EA	1/2 HP Automatic Submersible Single Seal Sewage Pump, 115 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,629.67	74.65
22 13 29 16-0005	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,598.03	74.65
22 13 29 16-0006	EA	1/2 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,749.65	74.65
22 13 29 16-0007	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,749.65	74.65
22 13 29 16-0008	EA	1 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,844.93	93.31
22 13 29 16-0009	EA	1 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,979.41	93.31
22 13 29 16-0010	EA	1 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller	1,996.56	93.31
22 13 29 16-0011		Submersible Single Seal Sewage Pumps With Bronze Vortex Impeller (22 13 29 16-0001)		
		Note: Includes 20' cord.		
22 13 29 16-0012	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 115 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,555.83	74.65
22 13 29 16-0013	EA	1/2 HP Automatic Submersible Single Seal Sewage Pump, 115 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,703.51	74.65
22 13 29 16-0014	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,633.63	74.65
22 13 29 16-0015	EA	1/2 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,776.02	74.65
22 13 29 16-0016	EA	1/2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,903.92	74.65
22 13 29 16-0017	EA	1 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,763.18	93.31
22 13 29 16-0018	EA	1 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,916.13	93.31
22 13 29 16-0019	EA	1 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	1,914.81	93.31
22 13 29 16-0020	EA	1-1/2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,176.87	150.42
22 13 29 16-0021	EA	1-1/2 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,306.08	150.42
22 13 29 16-0022	EA	1-1/2 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller	2,328.50	150.42



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 29 16-0023	EA		2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller.....	2,318.61	183.84
22 13 29 16-0024	EA		2 HP Automatic Submersible Single Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller.....	2,466.28	183.84
22 13 29 16-0025	EA		2 HP Manual Submersible Single Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller.....	2,470.23	183.84
22 13 29 16-0026			Submersible Double Seal Sewage Pumps With Bronze Vortex Impeller (22 13 29 16-0001) Note: Includes 20' cord.		
22 13 29 16-0027	EA		1/2 HP Manual Submersible Double Seal Sewage Pump, 115 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller.....	1,851.18	74.65
22 13 29 16-0028	EA		1/2 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller.....	2,101.69	74.65
22 13 29 16-0029	EA		1 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron And Bronze Impeller.....	2,044.02	93.31
22 13 29 16-0030	EA		1 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron And Bronze Impeller.....	2,195.65	93.31
22 13 29 16-0031	EA		1-1/2 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller.....	2,478.81	150.42
22 13 29 16-0032	EA		1-1/2 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller.....	2,630.43	150.42
22 13 29 16-0033	EA		2 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller.....	2,621.86	183.84
22 13 29 16-0034	EA		2 HP Manual Submersible Double Seal Sewage Pump, 230 Volt, 3 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Bronze Impeller.....	2,773.49	183.84
22 13 29 16-0035			Submersible Sewage Pumps With Semi-Open Impeller (22 13 29 16) Note: Includes 25' of cord with pump.		
22 13 29 16-0036	EA		1 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller.....	4,548.32	93.31
22 13 29 16-0037	EA		1.5 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller.....	4,864.03	161.45
22 13 29 16-0038	EA		2 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller.....	5,203.45	197.33
22 13 29 16-0039	EA		3 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller.....	5,436.54	239.19
22 13 29 16-0040	EA		5 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller.....	6,098.51	281.05
22 13 29 16-0041	EA		7.5 HP Manual Submersible Sewage Pump, 230 Volt, 3 Phase, 3" To 4" Flanged Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller.....	6,810.67	322.91
22 13 29 16-0042			Submersible Sewage Pumps, Explosion Proof (22 13 29 16) Note: Includes 25' of cord with pump.		
22 13 29 16-0043	EA		1 HP Explosion Proof Manual Sewage Pump, 230 Volt, 1 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	7,152.80	334.40
22 13 29 16-0044	EA		1 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	6,593.43	334.40
22 13 29 16-0045	EA		1 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	6,593.43	334.40
22 13 29 16-0046	EA		1.5 HP Explosion Proof Manual Sewage Pump, 230 Volt, 1 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	7,482.94	445.86
22 13 29 16-0047	EA		1.5 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	6,923.57	445.86
22 13 29 16-0048	EA		1.5 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	6,923.57	445.86
22 13 29 16-0049	EA		2 HP Explosion Proof Manual Sewage Pump, 230 Volt, 1 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	7,928.45	557.32
22 13 29 16-0050	EA		2 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	7,369.08	557.32
22 13 29 16-0051	EA		2 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	7,369.08	557.32
22 13 29 16-0052	EA		3 HP Explosion Proof Manual Sewage Pump, 230 Volt, 1 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	8,265.59	668.79
22 13 29 16-0053	EA		3 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	7,706.22	668.79
22 13 29 16-0054	EA		3 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	7,706.22	668.79
22 13 29 16-0055	EA		5 HP Explosion Proof Manual Sewage Pump, 230 Volt, 1 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	9,123.63	780.26
22 13 29 16-0056	EA		5 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	8,564.26	780.26
22 13 29 16-0057	EA		5 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	8,564.26	780.26
22 13 29 16-0058	EA		7.5 HP Explosion Proof Manual Sewage Pump, 230 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	9,435.13	891.72
22 13 29 16-0059	EA		7.5 HP Explosion Proof Manual Sewage Pump, 460 Volt, 3 Phase, 1750 RPM, 3" Vertical Or 4" Horizontal Flanged Discharge, Epoxy-Coated Cast Iron Housing And Impeller.....	9,435.13	891.72
22 13 29 16-0060			Submersible Sewage Pump Accessories (22 13 29 16)		

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 29 16-0061	EA	Simplex Plug In Pump Control Panel with Alarm Float Only, 115 Volt, 1 Phase, 0-15 Amperes Range, Indoor/Outdoor, NEMA 4X Enclosure For Submersible Sewage Pump..... Note: Includes alarm horn, warning light and alarm float switch.	755.15	92.24
22 13 29 16-0062	EA	Simplex Plug In Pump Control Panel with Alarm Float Only, 230 Volt, 1 Phase, 0-15 Amperes Range, Indoor/Outdoor, NEMA 4X Enclosure For Submersible Sewage Pump..... Note: Includes alarm horn, warning light, and alarm float switch.	780.35	92.24
22 13 29 16-0063	EA	Simplex Control Panel With 3 Floats, 115/208/230 Volt, 1 Phase, 0-20 Amperes Range, Indoor/Outdoor, NEMA 4X Enclosure For Submersible Sewage Pump..... Note: Includes alarm horn, warning light, and three 20' control float switches.	1,546.03	122.99
22 13 29 16-0064	EA	Simplex Control Panel 208/230/460 Volt, 3 Phase, 1-23 Amperes Range, Indoor/Outdoor, NEMA 4X Enclosure For Submersible Sewage Pump..... Note: Includes alarm horn and warning light. Control float switches not included.	2,191.02	122.99
22 13 29 16-0065	EA	Simplex Intrinsically Safe Control Panel, 230 Volt, 1 Phase, Indoor/Outdoor 4X Enclosure For Submersible Sewage Pumps With Explosion Proof Motors..... Note: Includes alarm horn and warning light. Control float switches not included.	4,522.44	122.99
22 13 29 16-0066	EA	Simplex Intrinsically Safe Control Panel, 200/230/460 Volt, 3 Phase, Indoor/Outdoor 4X Enclosure For Submersible Sewage Pumps With Explosion Proof Motors..... Note: Includes alarm horn and warning light. Control float switches not included.	4,731.42	122.99
22 13 29 16-0067	EA	Duplex Intrinsically Safe Control Panel, 230 Volt, 1 Phase, Indoor/Outdoor 4X Enclosure For Submersible Sewage Pumps With Explosion Proof Motors..... Note: Includes alarm horn and warning light. Control float switches not included.	7,561.24	153.73
22 13 29 16-0068	EA	Duplex Intrinsically Safe Control Panel, 200/230/460 Volt, 3 Phase, Indoor/Outdoor 4X Enclosure For Submersible Sewage Pumps With Explosion Proof Motors..... Note: Includes alarm horn and warning light. Control float switches not included.	6,372.35	153.73
22 13 29 16-0069	EA	Electrical Alternator Duplex Control Panel with 3 Floats, 115 Volt, 1 Phase, 7-20 Amperes Range, Indoor NEMA 1 Enclosure For Submersible Sewage Pumps..... Note: Includes alarm horn, warning light, and three 20' float switches.	1,712.09	153.73
22 13 29 16-0070	EA	Electrical Alternator Duplex Control Panel With 3 Floats, 115 Volt, 1 Phase, 7-20 Amperes Range, Indoor NEMA 4X Enclosure For Submersible Sewage Pumps..... Note: Includes alarm horn, warning light, and three 20' float switches.	1,888.45	153.73
22 13 29 16-0071	EA	Electrical Alternator Duplex Control Panel With 3 Floats, 115/200/230 Volt, 1 Phase, 0-20 Amperes, Indoor NEMA 1 Enclosure For Submersible Sewage Pumps..... Note: Includes alarm horn, warning light, and three 20' float switches.	1,811.61	153.73
22 13 29 16-0072	EA	Electrical Alternator Duplex Control Panel With 3 Floats, 115/200/230 Volt, 1 Phase, 0-30 Amperes Range, Indoor NEMA 4X Enclosure For Submersible Sewage Pumps..... Note: Includes alarm horn, warning light, and three 20' float switches.	1,970.55	153.73
22 13 29 16-0073	EA	Electrical Alternator Duplex Control Panel, 200/230/460 Volt, 3 Phase, 1-25 Amperes Range, Indoor/Outdoor NEMA 4X Enclosure For Submersible Sewage Pumps..... Note: Includes alarm horn and warning light. Float switches not included..	3,390.19	153.73
22 13 29 16-0074	EA	Alarm System, 115 Volt, Indoor/Outdoor 4X Enclosure..... Note: Includes alarm horn, warning light and 15' tethered float.	628.15	61.49
22 13 29 16-0075	EA	Variable Level (Clamp Type) Float Switch With 15' Cord..... Note: Not for use with Intrinsically Safe Control Systems.	116.92	30.75
22 13 29 16-0076	EA	Variable Level (Clamp Type) Float Switch With 15' Cord For Intrinsically Safe Control Systems Only.....	131.78	30.75
22 13 29 16-0077	EA	Variable Level (Adjustable Weight Type) Float Switch With 25' Cord..... Note: Not for use with Intrinsically Safe Control Systems.	150.78	30.75
22 13 29 16-0078	EA	Variable Level (Adjustable Weight Type) Float Switch With 25' Cord For Intrinsically Safe Control Systems Only.....	147.73	30.75
22 13 29 16-0079	EA	Float Switch Tree With (3) 15' Floats..... Note: Not for use with Intrinsically Safe Control Systems.	458.59	30.75
22 13 29 16-0080	EA	Float Switch Tree And (3) Floats With 15' Cords For Intrinsically Safe Control Systems Only.....	468.07	30.75
22 13 29 16-0081	EA	Float Switch Tree And (4) Floats With 15' Cords..... Note: Not for use with Intrinsically Safe Control Systems.	511.01	30.75
22 13 29 16-0082	EA	Float Switch Tree And (4) Floats With 15' Cords For Intrinsically Safe Control Systems Only.....	532.93	30.75
22 13 29 16-0083	EA	Float Switch Tree..... Note: Tree only.	242.55	30.75
22 13 29 16-0084	EA	Adjustable Weight For Float Switch.....	63.96	15.37
22 13 29 16-0085	EA	Rail And Disconnect System, Stainless Steel, For 2" Horizontal Discharge..... Note: Lifting equipment not included.	1,290.27	92.24
22 13 29 16-0086	EA	Rail And Disconnect System, Stainless Steel, For 3" Horizontal Discharge..... Note: Lifting equipment not included.	2,025.74	122.99
22 13 29 16-0087	EA	Rail And Disconnect System, Stainless Steel, For 4" Horizontal Discharge..... Note: Lifting equipment not included.	2,646.83	153.73
22 13 29 16-0088	EA	Rail And Disconnect System, Stainless Steel Non-Spearking, For 3" Horizontal Discharge.....	2,589.20	92.24
22 13 29 16-0089	EA	Rail And Disconnect System, Stainless Steel Non-Spearking, For 4" Horizontal Discharge.....	3,657.19	92.24
22 13 29 16-0090	EA	Intermediate Guide Rail Bracket, Stainless Steel, For 2" Rail System.....	366.75	61.49
22 13 29 16-0091	EA	Intermediate Guide Rail Bracket, Stainless Steel, For 3" Rail Systems.....	650.44	76.87
22 13 29 16-0092	EA	Intermediate Guide Rail Bracket, Stainless Steel, For 4" Rail Systems.....	649.74	92.24
22 13 29 16-0093	EA	12" Stainless Steel Lifting Cable.....	180.75	30.75
22 13 29 16-0094	EA	Disconnect Fitting For 2" Horizontal Discharge..... Note: Used for shallow systems where guide rails are not necessary.	361.62	30.75

22 13 29 33 Sewerage Pump Basins and Pits (22 13 29)**22 13 29 33-0001 Sewage Sump Pump Basin (22 13 29 33)****22 13 29 33-0002 High Density Polyethylene (HDPE) Basin (22 13 29 33-0001)**

22 13 29 33-0003	EA	18" Diameter x 24" High, High Density Polyethylene (HDPE) Basin And Lid With Inlet And Hub.....	137.72	
22 13 29 33-0004	EA	18" Diameter x 30" High, High Density Polyethylene (HDPE) Basin And Lid With Inlet And Hub.....	178.11	
22 13 29 33-0005	EA	24" Diameter x 30" High, High Density Polyethylene (HDPE) Basin And Lid With Inlet And Hub.....	405.39	
22 13 29 33-0006	EA	24" Diameter x 36" High, High Density Polyethylene (HDPE) Basin And Lid With Inlet And Hub.....	569.22	
22 13 29 33-0007	EA	30" Diameter x 36" High, High Density Polyethylene (HDPE) Basin And Lid With Inlet And Hub.....	733.03	
22 13 29 33-0008	EA	36" Diameter x 36" High, High Density Polyethylene (HDPE) Basin And Lid With Inlet And Hub.....	852.76	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 29 33-0009			Fiberglass Basin (22 13 29 33-0001)		
22 13 29 33-0010	EA		18" Diameter x 30" High Fiberglass Basin And Lid With Inlet And Hub	393.12	
22 13 29 33-0011	EA		24" Diameter x 30" High Fiberglass Basin And Lid With Inlet And Hub	808.10	
22 13 29 33-0012	EA		30" Diameter x 36" High Fiberglass Basin And Lid With Inlet And Hub	1,457.55	
22 13 29 33-0013	EA		36" Diameter x 36" High Fiberglass Basin And Lid With Inlet And Hub	1,965.23	
22 13 29 33-0014	EA		36" Diameter x 48" High Fiberglass Basin And Lid With Inlet And Hub	2,265.55	
22 13 29 33-0015	EA		36" Diameter x 60" High Fiberglass Basin And Lid With Inlet And Hub	2,392.66	
22 13 29 33-0016	EA		36" Diameter x 72" High Fiberglass Basin And Lid With Inlet And Hub	2,812.52	
22 13 29 33-0017	EA		48" Diameter x 48" High Fiberglass Basin And Lid With Inlet And Hub	3,266.79	
22 13 29 36			Explosion Proof Submersible Sewerage Pumps (22 13 29)		
22 13 29 36-0001			Wet Pit Submersible Sewer Pump, Explosion Proof Class 1, Div 1 And 2, 4 Pole, 1,750 RPM (Ebara) (22 13 29 36)		
22 13 29 36-0002			Ebara 3" Model DLFU Wet Pit Submersible Sewage Pump, 2HP - 30HP (22 13 29 36-0001)		
22 13 29 36-0003	EA		2 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU61.5	3,181.51	205.21
			For 20' Stainless Steel Chain, Add	284.75	
			For 3" x 3" Discharge Elbow, Add	152.15	
			For 3" x 4" Discharge Elbow, Add	184.45	
			For Guide Rail System, Add	381.65	
22 13 29 36-0004	EA		2 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLMFU61.5	3,181.51	205.21
			For 20' Stainless Steel Chain, Add	284.75	
			For 3" x 3" Discharge Elbow, Add	152.15	
			For 3" x 4" Discharge Elbow, Add	184.45	
			For Guide Rail System, Add	381.65	
22 13 29 36-0005	EA		3 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU62.2	4,163.83	246.25
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0006	EA		3 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLMFU62.2	4,046.39	246.25
			For 20' Stainless Steel Chain, Add	423.30	
			For 3" x 3" Discharge Elbow, Add	152.15	
			For 3" x 4" Discharge Elbow, Add	184.45	
			For Guide Rail System, Add	381.65	
22 13 29 36-0007	EA		5 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU63.7	4,675.69	328.34
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0008	EA		5 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLMFU63.7	4,795.31	328.34
			For 20' Stainless Steel Chain, Add	423.30	
			For 3" x 3" Discharge Elbow, Add	152.15	
			For 3" x 4" Discharge Elbow, Add	184.45	
			For Guide Rail System, Add	381.65	
22 13 29 36-0009	EA		7.5 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU65.5	6,461.98	410.42
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0010	EA		7.5 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLMFU65.5	6,516.35	410.42
			For 20' Stainless Steel Chain, Add	423.30	
			For 3" x 3" Discharge Elbow, Add	152.15	
			For 3" x 4" Discharge Elbow, Add	184.45	
			For Guide Rail System, Add	381.65	
22 13 29 36-0011	EA		10 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU67.5	7,540.38	492.51
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0012	EA		10 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLCMFU67.5	7,507.76	492.51
			For 20' Stainless Steel Chain, Add	423.30	
			For 3" x 3" Discharge Elbow, Add	152.15	
			For 3" x 4" Discharge Elbow, Add	184.45	
			For Guide Rail System, Add	589.90	
22 13 29 36-0013	EA		15 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU611	8,691.64	574.59
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0014	EA		15 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLCMFU611	8,657.93	574.59
			For 20' Stainless Steel Chain, Add	423.30	
			For 3" x 3" Discharge Elbow, Add	152.15	
			For 3" x 4" Discharge Elbow, Add	184.45	
			For Guide Rail System, Add	589.90	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 29 36-0015	EA		20 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU615	9,936.41	656.68
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0016	EA		25 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU618	12,235.96	738.76
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0017	EA		30 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 80DLFU622	13,622.09	820.84
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0018			Ebara 4" Model DLFU Wet Pit Submersible Sewage Pump, 2HP - 30HP (22 13		
			29 36-0001)		
22 13 29 36-0019	EA		2 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU61.5	3,847.00	205.21
			For 20' Stainless Steel Chain, Add	423.30	
			For 3" x 3" Discharge Elbow, Add	152.15	
			For 3" x 4" Discharge Elbow, Add	184.45	
			For Guide Rail System, Add	381.65	
22 13 29 36-0020	EA		3 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU62.2	4,337.82	246.25
			For 20' Stainless Steel Chain, Add	284.75	
			For 3" x 3" Discharge Elbow, Add	152.15	
			For 3" x 4" Discharge Elbow, Add	184.45	
			For Guide Rail System, Add	381.65	
22 13 29 36-0021	EA		3 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFMU62.2	4,163.83	246.25
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0022	EA		5 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU63.7	4,908.40	328.34
			For 20' Stainless Steel Chain, Add	284.75	
			For 3" x 3" Discharge Elbow, Add	152.15	
			For 3" x 4" Discharge Elbow, Add	184.45	
			For Guide Rail System, Add	381.65	
22 13 29 36-0023	EA		5 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFMU63.7	4,675.69	328.34
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0024	EA		7.5 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU65.5	7,332.99	410.42
			For 20' Stainless Steel Chain, Add	423.30	
			For 5" x 4" Discharge Elbow, Add	285.60	
			For 5" x 6" Discharge Elbow, Add	277.95	
			For Guide Rail System, Add	1,064.20	
22 13 29 36-0025	EA		7.5 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFMU65.5	6,461.98	410.42
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0026	EA		10 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU67.5	8,040.59	492.51
			For 20' Stainless Steel Chain, Add	423.30	
			For 5" x 4" Discharge Elbow, Add	285.60	
			For 5" x 6" Discharge Elbow, Add	277.95	
			For Guide Rail System, Add	1,064.20	
22 13 29 36-0027	EA		10 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFMU67.5	7,540.38	492.51
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0028	EA		15 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU611	9,147.26	574.59
			For 20' Stainless Steel Chain, Add	423.30	
			For 5" x 4" Discharge Elbow, Add	285.60	
			For 5" x 6" Discharge Elbow, Add	277.95	
			For Guide Rail System, Add	754.80	
22 13 29 36-0029	EA		15 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFMU611	8,691.64	574.59
			For 20' Stainless Steel Chain, Add	423.30	
			For 4" x 3" Discharge Elbow, Add	184.45	
			For 4" x 4" Discharge Elbow, Add	170.00	
			For 4" x 6" Discharge Elbow, Add	214.20	
			For Guide Rail System, Add	754.80	
22 13 29 36-0030	EA		20 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU615	10,424.65	656.68
			For 20' Stainless Steel Chain, Add	423.30	
			For 5" x 4" Discharge Elbow, Add	285.60	
			For 5" x 6" Discharge Elbow, Add	277.95	
			For Guide Rail System, Add	1,064.20	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
22 13 29 36-0031	EA	20 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLMFU615	9,936.41	656.68
		For 20' Stainless Steel Chain, Add	423.30	
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
22 13 29 36-0032	EA	25 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU618	12,561.09	738.76
		For 20' Stainless Steel Chain, Add	423.30	
		For 5" x 4" Discharge Elbow, Add	285.60	
		For 5" x 6" Discharge Elbow, Add	277.95	
		For Guide Rail System, Add	1,064.20	
22 13 29 36-0033	EA	25 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLMFU618	12,235.96	738.76
		For 20' Stainless Steel Chain, Add	423.30	
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
22 13 29 36-0034	EA	30 HP Wet Pit Submersible Sump Pump, 4" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU622	13,936.35	820.84
		For 20' Stainless Steel Chain, Add	423.30	
		For 5" x 4" Discharge Elbow, Add	285.60	
		For 5" x 6" Discharge Elbow, Add	277.95	
		For Guide Rail System, Add	1,064.20	
22 13 29 36-0035	EA	30 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLMFU622	13,622.09	820.84
		For 20' Stainless Steel Chain, Add	423.30	
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
22 13 29 36-0036	EA	30 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU630	20,873.99	820.84
		For 20' Stainless Steel Chain, Add	423.30	
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
22 13 29 36-0037	EA	30 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU637	25,916.29	820.84
		For 20' Stainless Steel Chain, Add	423.30	
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
22 13 29 36-0038	EA	30 HP Wet Pit Submersible Sump Pump, 3" Discharge, 3 Phase, 40 Ft Cable, Ebara 100DLFU645	27,408.21	820.84
		For 20' Stainless Steel Chain, Add	423.30	
		For 4" x 3" Discharge Elbow, Add	184.45	
		For 4" x 4" Discharge Elbow, Add	170.00	
		For 4" x 6" Discharge Elbow, Add	214.20	
		For Guide Rail System, Add	754.80	
22 13 29 36-0039	Ebara 6" Model DLFU Wet Pit Submersible Sewage Pump, 10 HP - 60 HP			
	(22 13 29 36-0001)			
22 13 29 36-0040	EA	10 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU67.5	8,365.72	492.51
		For 20' Stainless Steel Chain, Add	423.30	
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
22 13 29 36-0041	EA	15 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU611	9,476.74	574.59
		For 20' Stainless Steel Chain, Add	423.30	
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
22 13 29 36-0042	EA	20 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU615	10,722.60	656.68
		For 20' Stainless Steel Chain, Add	423.30	
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
22 13 29 36-0043	EA	25 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU618	12,411.03	738.76
		For 20' Stainless Steel Chain, Add	423.30	
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
22 13 29 36-0044	EA	30 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU622	14,542.03	820.84
		For 20' Stainless Steel Chain, Add	423.30	
		For 6" x 6" Discharge Elbow, Add	323.85	
		For 6" x 8" Discharge Elbow, Add	471.75	
		For Guide Rail System, Add	1,206.15	
22 13 29 36-0045	EA	40 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU630	21,546.79	902.92
		For 20' Stainless Steel Chain, Add	423.30	
		For Guide Rail System, Add	2,537.25	
22 13 29 36-0046	EA	50 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU637	26,449.59	985.00
		For 20' Stainless Steel Chain, Add	423.30	
		For Guide Rail System, Add	2,537.25	
22 13 29 36-0047	EA	60 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, 40 Ft Cable, Ebara 150DLFU645	28,148.88	1,067.09
		For 20' Stainless Steel Chain, Add	423.30	
		For Guide Rail System, Add	2,537.25	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 29 36-0048			Ebara 8" Model DLFU Wet Pit Submersible Sewage Pump, 10 HP - 60 HP (22 13 29 36-0001)		
22 13 29 36-0049	EA		10 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU675	8,860.49	492.51
			For 20' Stainless Steel Chain, Add	423.30	
			For 6" x 6" Discharge Elbow, Add	323.85	
			For 6" x 8" Discharge Elbow, Add	471.75	
			For Guide Rail System, Add	1,206.15	
22 13 29 36-0050	EA		15 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU611	9,558.30	574.59
			For 20' Stainless Steel Chain, Add	423.30	
			For 6" x 6" Discharge Elbow, Add	323.85	
			For 6" x 8" Discharge Elbow, Add	471.75	
			For Guide Rail System, Add	1,206.15	
22 13 29 36-0051	EA		20 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU61	10,732.39	656.68
			For 20' Stainless Steel Chain, Add	423.30	
			For 6" x 6" Discharge Elbow, Add	323.85	
			For 6" x 8" Discharge Elbow, Add	471.75	
			For Guide Rail System, Add	1,206.15	
22 13 29 36-0052	EA		25 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU618	12,411.03	738.76
			For 20' Stainless Steel Chain, Add	423.30	
			For 6" x 6" Discharge Elbow, Add	323.85	
			For 6" x 8" Discharge Elbow, Add	471.75	
			For Guide Rail System, Add	1,206.15	
22 13 29 36-0053	EA		30 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU622	14,542.03	820.84
			For 20' Stainless Steel Chain, Add	423.30	
			For 6" x 6" Discharge Elbow, Add	323.85	
			For 6" x 8" Discharge Elbow, Add	471.75	
			For Guide Rail System, Add	1,206.15	
22 13 29 36-0054	EA		40 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU630	21,203.17	902.92
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	4,195.60	
22 13 29 36-0055	EA		50 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU637	26,612.70	985.00
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	4,195.60	
22 13 29 36-0056	EA		60 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, 40 Ft Cable, Ebara 200DLFU645	28,319.60	1,067.09
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	4,195.60	
22 13 29 36-0057			Ebara 10" Model DLFU Wet Pit Submersible Sewage Pump, 15 HP - 60 HP (22 13 29 36-0001)		
22 13 29 36-0058	EA		15 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU611	10,981.71	574.59
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0059	EA		20 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU615	12,014.44	656.68
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0060	EA		20 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFCU615	12,775.62	656.68
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0061	EA		25 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU618	14,563.00	738.76
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0062	EA		30 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU622	15,825.17	820.84
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0063	EA		40 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU630	22,672.25	902.92
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0064	EA		50 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU637	28,323.19	985.00
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0065	EA		60 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, 40 Ft Cable, Ebara 250DLFU645	30,031.18	1,067.09
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0066			Ebara 12" Model DLFU Wet Pit Submersible Sewage Pump, 25HP - 60HP (22 13 29 36-0001)		
22 13 29 36-0067	EA		25 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, 40 Ft Cable, Ebara 300DLFU618	15,232.85	738.76
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0068	EA		30 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, 40 Ft Cable, Ebara 300DLFU622	16,470.00	820.84
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0069	EA		40 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, 40 Ft Cable, Ebara 300DLFU630	23,356.23	902.92
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0070	EA		50 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, 40 Ft Cable, Ebara 300DLFU637	28,952.79	985.00
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	
22 13 29 36-0071	EA		60 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, 40 Ft Cable, Ebara 300DLFU645	30,652.09	1,067.09
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	3,562.35	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 29 36-0072			Wet Pit Submersible Sewer Pump, Explosion Proof Class 1, Div 1 And 2, 4 And 6 Pole, 1,750 And 1,180 RPM (Ebara) (22 13 29 36)		
22 13 29 36-0073			Ebara 6", 8", 10", 12" Model DSC Submersible Sewage Pumps, 75 HP - 245 HP (22 13 29 36-0072)		
22 13 29 36-0074	EA		75 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, Ebara DSC G0852	88,887.75	1,149.17
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	4,420.00	
22 13 29 36-0075	EA		75 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC E1052	97,205.31	1,149.17
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	4,420.00	
22 13 29 36-0076	EA		100 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, Ebara DSC G0932	100,178.36	1,272.30
			For 20' Stainless Steel Chain, Add	423.30	
			For Guide Rail System, Add	4,420.00	
22 13 29 36-0077	EA		100 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC E1052	102,515.20	1,272.30
			For Guide Rail System, Add	4,420.00	
			For 20' Stainless Steel Chain, Add	590.75	
22 13 29 36-0078	EA		100 HP Wet Pit Submersible Sump Pump, 12" Discharge, 3 Phase, Ebara DSC C1203	80,294.94	1,272.30
			For Guide Rail System, Add	5,695.00	
			For 20' Stainless Steel Chain, Add	590.75	
22 13 29 36-0079	EA		120 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, Ebara DSC G1012	116,817.92	1,395.42
			For Guide Rail System, Add	5,270.00	
			For 20' Stainless Steel Chain, Add	590.75	
22 13 29 36-0080	EA		120 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC E1152	104,394.32	1,395.42
			For Guide Rail System, Add	5,270.00	
			For 20' Stainless Steel Chain, Add	590.75	
22 13 29 36-0081	EA		145 HP Wet Pit Submersible Sump Pump, 6" Discharge, 3 Phase, Ebara DSC G1012	104,479.60	1,559.59
			For Guide Rail System, Add	6,375.00	
			For 20' Stainless Steel Chain, Add	590.75	
22 13 29 36-0082	EA		145 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC F1102	124,051.81	1,559.59
			For Guide Rail System, Add	6,375.00	
			For 20' Stainless Steel Chain, Add	590.75	
22 13 29 36-0083	EA		200 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC F1102	141,213.69	1,723.76
			For Guide Rail System, Add	6,970.00	
			For 20' Stainless Steel Chain, Add	845.75	
22 13 29 36-0084	EA		200 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, Ebara DSC G1102	141,213.69	1,723.76
			For Guide Rail System, Add	6,970.00	
			For 20' Stainless Steel Chain, Add	845.75	
22 13 29 36-0085	EA		245 HP Wet Pit Submersible Sump Pump, 8" Discharge, 3 Phase, Ebara DSC G1102	146,354.32	1,887.93
			For Guide Rail System, Add	9,180.00	
			For 20' Stainless Steel Chain, Add	845.75	
22 13 29 36-0086	EA		245 HP Wet Pit Submersible Sump Pump, 10" Discharge, 3 Phase, Ebara DSC E1262	148,420.39	1,887.93
			For Guide Rail System, Add	9,180.00	
			For 20' Stainless Steel Chain, Add	845.75	
22 13 29 36-0087			Dry Pit Submersible Sewer Pump, Explosion Proof Class 1, Div 1 And 2, 4 Pole, 1,750 RPM (Ebara) (22 13 29 36)		
22 13 29 36-0088			Ebara Model DLFU Dry Pit Submersible Sewage Pump, 15 HP - 60 HP (22 13 29 36-0087)		
22 13 29 36-0089	EA		3" x 4" 15 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 100x80DDLFU611	13,816.58	574.59
22 13 29 36-0090	EA		3" x 4" 20 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 100x80DDLFU615	15,522.40	656.68
22 13 29 36-0091	EA		3" x 4" 25 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 100x80DDLFU618	16,982.48	738.76
22 13 29 36-0092	EA		3" x 4" 30 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 100x80DDLFU622	18,054.35	820.84
22 13 29 36-0093	EA		4" x 6" 15 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU611	14,280.90	574.59
22 13 29 36-0094	EA		4" x 6" 20 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU615	15,588.74	656.68
22 13 29 36-0095	EA		4" x 6" 25 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU618	17,445.71	738.76
22 13 29 36-0096	EA		4" x 6" 30 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU622	18,763.34	820.84
22 13 29 36-0097	EA		4" x 6" 40 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU61130	26,439.02	902.92
22 13 29 36-0098	EA		4" x 6" 50 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU637	31,016.69	985.00
22 13 29 36-0099	EA		4" x 6" 60 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 150x100DDLFU645	32,240.79	1,067.09
22 13 29 36-0100	EA		8" x 10" 15 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU611	14,747.39	574.59
22 13 29 36-0101	EA		8" x 10" 20 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU615	15,870.37	656.68
22 13 29 36-0102	EA		8" x 10" 25 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU618	17,567.50	738.76
22 13 29 36-0103	EA		8" x 10" 30 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU622	19,198.30	820.84
22 13 29 36-0104	EA		8" x 10" 40 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU630	27,228.48	902.92
22 13 29 36-0105	EA		8" x 10" 50 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU637	33,640.60	985.00
22 13 29 36-0106	EA		8" x 10" 60 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x150DDLFU645	34,012.17	1,067.09
22 13 29 36-0107	EA		8" X 8" 30 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x200DDLFU630	28,196.58	820.84
22 13 29 36-0108	EA		8" X 8" 50 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x200DDLFU637	33,741.72	985.00
22 13 29 36-0109	EA		8" X 8" 60 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 200x200DDLFU645	34,272.06	1,067.09
22 13 29 36-0110	EA		10" x 10" 40 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 250x250DDLFU630	33,536.51	902.92
22 13 29 36-0111	EA		10" x 10" 50 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 250x250DDLFU637	33,741.72	985.00
22 13 29 36-0112	EA		10" x 10" 60 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 250x250DDLFU645	34,293.81	1,067.09
22 13 29 36-0113	EA		12" X 12" 40 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 300x300DDLFU630	28,832.40	902.92
22 13 29 36-0114	EA		12" X 12" 50 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 300x300DDLFU637	33,907.01	985.00
22 13 29 36-0115	EA		12" X 12" 60 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara 300x300DDLFU645	34,357.96	1,067.09
22 13 29 36-0116			Dry Pit Submersible Sewer Pump, Explosion Proof Class 1, Div 1 And 2, 4 And 6 Pole, 1,750 And 1,180 RPM (Ebara) (22 13 29 36)		



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 13 29 36-0117	Ebara Model DSC Dry Pit Submersible Sewage Pump, 75 HP - 245 HP (22 13 29 36-0116)	
22 13 29 36-0118	EA 10" x 6" 75 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G0852.....	90,975.51 1,149.17
22 13 29 36-0119	EA 10" x 8" 75 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC E1052.....	99,308.69 1,149.17
22 13 29 36-0120	EA 10" x 6" 100 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G0932.....	102,780.92 1,272.30
22 13 29 36-0121	EA 10" x 8" 100 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC E1052.....	104,849.05 1,272.30
22 13 29 36-0122	EA 16" x 12" 100 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC C1203.....	91,477.70 1,272.30
22 13 29 36-0123	EA 10" x 6" 120 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G1012.....	119,689.79 1,395.42
22 13 29 36-0124	EA 10" x 8" 120 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC E1152.....	105,156.87 1,395.42
22 13 29 36-0125	EA 10" x 6" 145 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G1012.....	105,567.29 1,559.59
22 13 29 36-0126	EA 10" x 8" 145 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC F1102.....	124,944.01 1,559.59
22 13 29 36-0127	EA 12" x 8" 200 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC F1102.....	148,931.17 1,723.76
22 13 29 36-0128	EA 14" x 10" 200 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G1102.....	145,507.08 1,682.20
22 13 29 36-0129	EA 12" x 8" 245 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC G1102.....	148,760.02 1,887.93
22 13 29 36-0130	EA 14" x 10" 245 HP Dry Pit Submersible Sewer Pump, 3 Phase, Ebara DSC E1262.....	148,760.02 1,887.93

22 13 33 Packaged, Submersible Sewerage Pump Units (22 13)

22 13 33 00-0001	Submersible Pumps (Flygt) (22 13 33)	
22 13 33 00-0002	Wet Pit Submersible Pumps (Flygt) (22 13 33 00-0001)	
22 13 33 00-0003	Wet Pit Submersible Explosion Proof Pumps (Flygt) (22 13 33 00-0002)	
22 13 33 00-0004	EA 3 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3085).....	14,765.78 246.25
	Note: FLS and 50' electrical cable	
22 13 33 00-0005	EA 4 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3085).....	15,414.49 287.30
	Note: FLS and 50' electrical cable	
22 13 33 00-0006	EA 5 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3102).....	18,442.70 328.34
	Note: FLS and 50' electrical cable	
22 13 33 00-0007	EA 7 HP, 3" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3102).....	17,399.65 410.42
	Note: FLS and 50' electrical cable	
22 13 33 00-0008	EA 7.5 To 8.5 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3127).....	24,506.15 451.46
	Note: FLS and 50' electrical cable	
22 13 33 00-0009	EA 10 To 12 HP, 3" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3127).....	28,575.87 492.51
	Note: FLS and 50' electrical cable	
22 13 33 00-0010	EA 12 To 14 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3153).....	43,130.94 533.55
	Note: FLS and 50' electrical cable	
22 13 33 00-0011	EA 15 To 17 HP, 3" To 10" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3153).....	45,310.72 574.59
	Note: FLS and 50' electrical cable	
22 13 33 00-0012	EA 20 To 23 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3153).....	49,282.15 656.68
	Note: FLS and 50' electrical cable	
22 13 33 00-0013	EA 18 To 25 HP, 4" To 10" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3171).....	62,200.07 738.76
	Note: FLS and 50' electrical cable	
22 13 33 00-0014	EA 30 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3171).....	68,375.45 820.84
	Note: FLS and 50' electrical cable	
22 13 33 00-0015	EA 34 To 35 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3171).....	82,175.71 861.88
	Note: FLS and 50' electrical cable	
22 13 33 00-0016	EA 34 To 45 HP, 4" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3202).....	113,710.97 902.92
	Note: FLS and 50' electrical cable	
22 13 33 00-0017	EA 50 To 60 HP, 4" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3202).....	127,616.20 1,067.09
	Note: FLS and 50' electrical cable	
22 13 33 00-0018	EA 67 To 72 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3202).....	123,279.69 1,108.13
	Note: FLS and 50' electrical cable	
22 13 33 00-0019	EA 60 To 70 HP, 10" To 14" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3301).....	157,498.69 1,149.17
	Note: FLS and 50' electrical cable	
22 13 33 00-0020	EA 85 HP, 6" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3301).....	174,122.37 1,231.26
	Note: FLS and 50' electrical cable	
22 13 33 00-0021	EA 105 HP, 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3301).....	177,231.73 1,313.34
	Note: FLS and 50' electrical cable	
22 13 33 00-0022	EA 70 To 90 HP, 14" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3315).....	155,799.89 1,149.17
	Note: FLS and 50' electrical cable	
22 13 33 00-0023	EA 110 To 140 HP, 10" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3315).....	182,839.55 1,395.42
	Note: FLS and 50' electrical cable	
22 13 33 00-0024	EA 130 To 160 HP, 6" Discharge, Wet Pit Submersible Explosion Proof Pump (Flygt NP3315).....	178,957.14 1,559.59
	Note: FLS and 50' electrical cable	
22 13 33 00-0025	EA 3 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3085).....	15,692.22 246.25
	Note: FLS and 50' electrical cable	
22 13 33 00-0026	EA 4 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3085).....	16,340.93 287.30
	Note: FLS and 50' electrical cable	
22 13 33 00-0027	EA 5 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3102).....	20,003.02 328.34
	Note: FLS and 50' electrical cable	
22 13 33 00-0028	EA 7 HP, 3" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3102).....	18,959.97 410.42
	Note: FLS and 50' electrical cable	
22 13 33 00-0029	EA 7.5 To 8.5 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3127).....	26,076.23 451.46
	Note: FLS and 50' electrical cable	
22 13 33 00-0030	EA 10 To 12 HP, 3" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3127).....	30,145.94 492.51
	Note: FLS and 50' electrical cable	
22 13 33 00-0031	EA 12 To 14 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3153).....	44,769.28 533.55
	Note: FLS and 50' electrical cable	



Plumbing		22	22
Plumbing Piping		22 10	
Facility Sanitary Sewerage		22 13	

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0032	EA	15 To 17 HP, 3" To 10" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3153) Note: FLS and 50' electrical cable	46,949.05	574.59
22 13 33 00-0033	EA	20 To 23 HP, 3" To 4" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3153) Note: FLS and 50' electrical cable	50,920.49	656.68
22 13 33 00-0034	EA	18 To 25 HP, 4" To 10" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3171) Note: FLS and 50' electrical cable	64,969.64	738.76
22 13 33 00-0035	EA	30 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3171) Note: FLS and 50' electrical cable	71,145.02	820.84
22 13 33 00-0036	EA	34 To 35 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3171) Note: FLS and 50' electrical cable	84,945.28	861.88
22 13 33 00-0037	EA	34 To 45 HP, 4" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3202) Note: FLS and 50' electrical cable	116,480.54	902.92
22 13 33 00-0038	EA	50 To 60 HP, 4" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3202) Note: FLS and 50' electrical cable	130,385.76	1,067.09
22 13 33 00-0039	EA	67 To 72 HP, 4" To 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3202) Note: FLS and 50' electrical cable	127,375.53	1,108.13
22 13 33 00-0040	EA	60 To 70 HP, 10" To 14" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3301) Note: FLS and 50' electrical cable	161,594.53	1,149.17
22 13 33 00-0041	EA	85 HP, 6" To 12" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3301) Note: FLS and 50' electrical cable	178,218.21	1,231.26
22 13 33 00-0042	EA	105 HP, 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3301) Note: FLS and 50' electrical cable	181,327.57	1,313.34
22 13 33 00-0043	EA	70 To 90 HP, 14" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3315) Note: FLS and 50' electrical cable	159,895.73	1,149.17
22 13 33 00-0044	EA	130 To 160 HP, 6" Discharge, Wet Pit Submersible Explosion Proof Pump With Shielded Power Cable (Flygt NP3315) Note: FLS and 50' electrical cable	183,248.02	1,559.59
22 13 33 00-0045		Dry Pit Submersible Vertical Pumps (Flygt) (22 13 33 00-0001)		
22 13 33 00-0046		Dry Pit Submersible Vertical Non-Explosion Proof Pumps (Flygt) (22 13 33 00-0045)		
22 13 33 00-0047	EA	3 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3085) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	14,362.05	246.25
22 13 33 00-0048	EA	4 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3085) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	15,020.51	287.30
22 13 33 00-0049	EA	5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3102) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	17,102.78	328.34
22 13 33 00-0050	EA	7 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3102) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	17,200.71	410.42
22 13 33 00-0051	EA	7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3127) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	25,645.19	451.46
22 13 33 00-0052	EA	10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3127) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	28,458.84	492.51
22 13 33 00-0053	EA	15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3153) Note: FLS and 50' electrical cable	42,732.29	574.59
		For Inlet Elbow, Add	2,451.65	
		For Stand, Add	1,946.50	
22 13 33 00-0054	EA	20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3153) Note: FLS and 50' electrical cable	46,465.77	656.68
		For Inlet Elbow, Add	3,311.78	
		For Stand, Add	1,375.03	
22 13 33 00-0055	EA	18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3171) Note: FLS and 50' electrical cable	58,451.40	738.76
		For Inlet Elbow, Add	2,451.65	
		For Stand, Add	3,194.76	
22 13 33 00-0056	EA	30 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3171) Note: FLS and 50' electrical cable	62,931.89	820.84
		For Inlet Elbow, Add	2,451.65	
		For Stand, Add	1,989.41	
22 13 33 00-0057	EA	34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3171) Note: FLS and 50' electrical cable	78,329.52	861.88
		For Inlet Elbow, Add	3,311.78	
		For Stand, Add	1,989.41	
22 13 33 00-0058	EA	34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3202) Note: FLS and 50' electrical cable	105,312.55	902.92
		For Inlet Elbow, Add	3,311.78	
		For Stand, Add	4,575.64	
22 13 33 00-0059	EA	50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3202) Note: FLS and 50' electrical cable	130,155.62	1,067.09
		For Inlet Elbow, Add	3,311.78	
		For Stand, Add	4,575.64	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0060	EA	67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3202)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	124,524.05 3,311.78 2,057.67	1,108.13
22 13 33 00-0061	EA	85 HP, 6" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3301)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	138,515.87 3,311.78 4,641.95	1,231.26
22 13 33 00-0062	EA	105 HP, 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3301) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	143,066.58 4,349.39 4,286.98	1,313.34
22 13 33 00-0063	EA	70 To 90 HP, 14" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3315)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	141,249.91 7,877.67 4,641.95	1,149.17
22 13 33 00-0064	EA	110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump (Flygt NT3315)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	179,722.81 7,877.67 4,641.95	1,395.42
22 13 33 00-0065	EA	3 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3085)..... Note: FLS and 50' electrical cable	15,288.49	246.25
22 13 33 00-0066	EA	4 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3085)..... Note: FLS and 50' electrical cable	15,946.95	287.30
22 13 33 00-0067	EA	5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3102)..... Note: FLS and 50' electrical cable	18,672.85	328.34
22 13 33 00-0068	EA	7 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3102)..... Note: FLS and 50' electrical cable	18,770.78	410.42
22 13 33 00-0069	EA	7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3127) Note: FLS and 50' electrical cable	27,215.26	451.46
22 13 33 00-0070	EA	10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3127) Note: FLS and 50' electrical cable	30,028.92	492.51
22 13 33 00-0071	EA	12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3153) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	40,150.73 2,451.65 1,375.03	533.55
22 13 33 00-0072	EA	15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3153) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	44,390.13 2,451.65 1,946.50	574.59
22 13 33 00-0073	EA	20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3153) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	48,123.61 3,311.78 1,375.03	656.68
22 13 33 00-0074	EA	18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3171) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	61,211.21 2,451.65 3,194.76	738.76
22 13 33 00-0075	EA	30 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3171)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	65,691.70 2,451.65 1,989.41	820.84
22 13 33 00-0076	EA	34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3171) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	81,089.34 3,311.78 1,989.41	861.88
22 13 33 00-0077	EA	34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3202) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	108,072.36 3,311.78 4,575.64	902.92
22 13 33 00-0078	EA	50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3202) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	132,915.43 3,311.78 4,575.64	1,067.09
22 13 33 00-0079	EA	67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3202) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	128,619.89 3,311.78 2,057.67	1,108.13



	Plumbing	22	
	Plumbing Piping	22 10	22
	Facility Sanitary Sewerage	22 13	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0080	EA	60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3301) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	128,859.02 3,311.78 4,641.95	1,149.17
22 13 33 00-0081	EA	85 HP, 6" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3301)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	142,611.71 3,311.78 4,641.95	1,231.26
22 13 33 00-0082	EA	105 HP, 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3301) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	147,162.42 4,349.39 4,286.98	1,313.34
22 13 33 00-0083	EA	70 To 90 HP, 14" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3315)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	145,345.75 7,877.67 4,641.95	1,149.17
22 13 33 00-0084	EA	110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3315) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	183,818.65 7,877.67 4,641.95	1,395.42
22 13 33 00-0085	EA	130 To 160 HP, 6" Discharge, Dry Pit Submersible Vertical Non-Explosion Proof Pump With Shielded Power Cable (Flygt NT3315) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	167,635.07 7,877.67 4,286.98	1,559.59
22 13 33 00-0086		Dry Pit Submersible Vertical Explosion Proof Pumps (Flygt) (22 13 33 00-0048)		
22 13 33 00-0087	EA	3 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3085) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	16,111.56	246.25
22 13 33 00-0088	EA	4 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3085) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	16,770.02	287.30
22 13 33 00-0089	EA	7 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3102) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	18,950.22	410.42
22 13 33 00-0090	EA	7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3127) Note: FLS and 50' electrical cable. Includes stand and inlet elbow.	27,800.38	451.46
22 13 33 00-0091	EA	12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3153) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	40,862.63 2,451.65 1,375.03	533.55
22 13 33 00-0092	EA	15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3153) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	45,102.03 2,451.65 1,946.50	574.59
22 13 33 00-0093	EA	20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3153) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	48,835.51 3,311.78 1,375.03	656.68
22 13 33 00-0094	EA	18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3171) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	61,626.65 2,451.65 3,194.76	738.76
22 13 33 00-0095	EA	34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3171) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	81,504.77 3,311.78 1,989.41	861.88
22 13 33 00-0096	EA	34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3202) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	108,487.80 3,311.78 4,575.64	902.92
22 13 33 00-0097	EA	50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3202) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	133,330.87 3,311.78 4,575.64	1,067.09
22 13 33 00-0098	EA	67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3202) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	127,699.30 3,311.78 2,057.67	1,108.13
22 13 33 00-0099	EA	60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3301) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	131,642.24 3,311.78 4,641.95	1,149.17
22 13 33 00-0100	EA	85 HP, 6" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3301) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	145,394.93 3,311.78 4,641.95	1,231.26
22 13 33 00-0101	EA	105 HP, 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3301)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	149,945.64 4,349.39 4,286.98	1,313.34

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0102	EA		70 To 90 HP, 14" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3315)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	148,324.01 7,877.67 4,641.95	1,149.17
22 13 33 00-0103	EA		110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3315) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	186,796.91 7,877.67 4,641.95	1,395.42
22 13 33 00-0104	EA		130 To 160 HP, 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump (Flygt NT3315)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	170,408.54 7,877.67 4,286.98	1,559.59
22 13 33 00-0105	EA		3 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3085)..... Note: FLS and 50' electrical cable	17,038.00	246.25
22 13 33 00-0106	EA		4 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3085)..... Note: FLS and 50' electrical cable	17,696.46	287.30
22 13 33 00-0107	EA		5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3102)..... Note: FLS and 50' electrical cable	20,422.36	328.34
22 13 33 00-0108	EA		7 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3102)..... Note: FLS and 50' electrical cable	20,520.29	410.42
22 13 33 00-0109	EA		7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3127) Note: FLS and 50' electrical cable	29,370.45	451.46
22 13 33 00-0110	EA		10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3127)..... Note: FLS and 50' electrical cable	32,184.11	492.51
22 13 33 00-0111	EA		12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3153)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	42,520.47 2,451.65 1,375.03	533.55
22 13 33 00-0112	EA		15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3153) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	46,759.87 2,451.65 1,946.50	574.59
22 13 33 00-0113	EA		20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3153)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	50,493.35 3,311.78 1,375.03	656.68
22 13 33 00-0114	EA		18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3171) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	64,386.47 2,451.65 3,194.76	738.76
22 13 33 00-0115	EA		30 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3171)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	68,866.95 2,451.65 1,989.41	820.84
22 13 33 00-0116	EA		34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3171)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	84,264.59 3,311.78 1,989.41	861.88
22 13 33 00-0117	EA		34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3202) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	111,247.61 3,311.78 4,575.64	902.92
22 13 33 00-0118	EA		50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3202) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	136,090.68 3,311.78 4,575.64	1,067.09
22 13 33 00-0119	EA		67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3202)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	131,795.14 3,311.78 2,057.67	1,108.13
22 13 33 00-0120	EA		60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3301) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	135,738.08 3,311.78 4,641.95	1,149.17
22 13 33 00-0121	EA		85 HP, 6" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3301)..... Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	149,490.77 3,311.78 4,641.95	1,231.26



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0122	EA		105 HP, 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3301) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	154,041.48 4,349.39 4,286.98	1,313.34
22 13 33 00-0123	EA		70 To 90 HP, 14" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3315) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	152,419.85 7,877.67 4,641.95	1,149.17
22 13 33 00-0124	EA		110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3315) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	190,892.75 7,877.67 4,641.95	1,395.42
22 13 33 00-0125	EA		130 To 160 HP, 6" Discharge, Dry Pit Submersible Vertical Explosion Proof Pump With Shielded Power Cable (Flygt NT3315) Note: FLS and 50' electrical cable For Inlet Elbow, Add For Stand, Add	174,709.17 7,877.67 4,286.98	1,559.59
22 13 33 00-0126			Dry Pit Submersible Horizontal Pumps (Flygt) (22 13 33 00-0001)		
22 13 33 00-0127			Dry Pit Submersible Horizontal Non-Explosion Proof Pumps (Flygt) (22 13 33 00-0126)		
22 13 33 00-0128	EA		3 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3085) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	12,932.41 3,461.96	246.25
22 13 33 00-0129	EA		4 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3085) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	11,369.36 3,461.96	287.30
22 13 33 00-0130	EA		5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3102) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	15,292.81 3,344.94	328.34
22 13 33 00-0131	EA		7 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3102) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	14,856.33 3,344.94	410.42
22 13 33 00-0132	EA		7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3127) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	22,813.21 3,705.76	451.46
22 13 33 00-0133	EA		10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3127) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add	25,455.23 3,705.76	492.51
22 13 33 00-0134	EA		15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3153) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	42,730.34 6,943.42 6,914.17	574.59
22 13 33 00-0135	EA		20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3153) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	46,465.77 6,943.42 6,914.17	656.68
22 13 33 00-0136	EA		18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3171) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	58,451.40 5,714.67 9,219.54	738.76
22 13 33 00-0137	EA		30 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3171) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	62,931.89 5,714.67 9,219.54	820.84
22 13 33 00-0138	EA		34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3171) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	78,333.42 5,714.67 9,219.54	861.88
22 13 33 00-0139	EA		34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3202) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	105,310.59 8,035.65 10,532.16	902.92
22 13 33 00-0140	EA		50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3202) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	130,155.62 8,035.65 10,532.16	1,067.09
22 13 33 00-0141	EA		67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3202) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	124,524.05 8,035.65 10,532.16	1,108.13
22 13 33 00-0142	EA		60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3301) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	124,763.18 10,863.73 13,555.28	1,149.17
22 13 33 00-0143	EA		85 HP, 6" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3301) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	132,662.72 10,863.73 13,555.28	1,231.26

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0144	EA	105 HP, 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3301).....	141,116.18	1,313.34
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	10,863.73	
		For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0145	EA	70 To 90 HP, 14" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3315).....	141,249.91	1,149.17
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	13,311.48	
		For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0146	EA	110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3315) .	179,722.81	1,395.42
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	13,311.48	
		For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0147	EA	130 To 160 HP, 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump (Flygt NZ3315).....	163,334.44	1,559.59
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	13,311.48	
		For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0148	EA	3 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3085).....	13,858.85	246.25
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,461.96	
22 13 33 00-0149	EA	4 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3085).....	12,295.80	287.30
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,461.96	
22 13 33 00-0150	EA	5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3102).....	16,862.88	328.34
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,344.94	
22 13 33 00-0151	EA	7 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3102).....	16,426.40	410.42
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,344.94	
22 13 33 00-0152	EA	7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3127)	24,383.28	451.46
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,705.76	
22 13 33 00-0153	EA	10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3127)	27,025.30	492.51
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,705.76	
22 13 33 00-0154	EA	12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)	40,150.73	533.55
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	6,943.42	
		For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0155	EA	15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)	44,388.18	574.59
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	6,943.42	
		For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0156	EA	20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)	48,123.61	656.68
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	6,943.42	
		For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0157	EA	18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)	61,211.21	738.76
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	5,714.67	
		For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0158	EA	30 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)	65,691.70	820.84
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	5,714.67	
		For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0159	EA	34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)	81,093.24	861.88
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	5,714.67	
		For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0160	EA	34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3202)	108,070.41	902.92
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	8,035.65	
		For Horizontal Service Car, Add	10,532.16	
22 13 33 00-0161	EA	50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3202)	132,915.43	1,067.09
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	8,035.65	
		For Horizontal Service Car, Add	10,532.16	
22 13 33 00-0162	EA	67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3202)	128,619.89	1,108.13
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	8,035.65	
		For Horizontal Service Car, Add	10,532.16	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0163	EA		60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301).....	128,859.02	1,149.17
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	10,863.73	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0164	EA		85 HP, 6" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301).....	136,758.56	1,231.26
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	10,863.73	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0165	EA		105 HP, 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301).....	145,212.02	1,313.34
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	10,863.73	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0166	EA		70 To 90 HP, 14" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315).....	145,345.75	1,149.17
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	13,311.48	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0167	EA		110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315).....	183,818.65	1,395.42
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	13,311.48	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0168	EA		130 To 160 HP, 6" Discharge, Dry Pit Submersible Horizontal Non-Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315).....	167,635.07	1,559.59
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	13,311.48	
			For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0169			Dry Pit Submersible Horizontal Explosion Proof Pumps (Flygt) (22 13 33 00-0126)		
22 13 33 00-0170	EA		3 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3085).....	14,681.91	246.25
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,461.96	
22 13 33 00-0171	EA		4 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3085).....	13,118.87	287.30
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,461.96	
22 13 33 00-0172	EA		5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3102).....	17,042.32	328.34
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,344.94	
22 13 33 00-0173	EA		7 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3102).....	16,605.84	410.42
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,344.94	
22 13 33 00-0174	EA		7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3127).....	24,968.40	451.46
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,705.76	
22 13 33 00-0175	EA		10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3127).....	27,610.42	492.51
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	3,705.76	
22 13 33 00-0176	EA		12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3153).....	40,862.63	533.55
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	6,943.42	
			For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0177	EA		15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3153).....	45,100.07	574.59
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	6,943.42	
			For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0178	EA		20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3153).....	48,835.51	656.68
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	6,943.42	
			For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0179	EA		18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3171).....	61,626.65	738.76
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	5,714.67	
			For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0180	EA		30 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3171).....	66,107.14	820.84
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	5,714.67	
			For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0181	EA		34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3171).....	81,508.67	861.88
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	5,714.67	
			For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0182	EA		34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3202).....	108,485.85	902.92
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	8,035.65	
			For Horizontal Service Car, Add	10,532.16	
22 13 33 00-0183	EA		50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3202).....	133,330.87	1,067.09
			Note: FLS and 50' electrical cable		
			For Steel Z Stand Kit, Add	8,035.65	
			For Horizontal Service Car, Add	10,532.16	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0184	EA	67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3202)	127,699.30	1,108.13
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	8,035.65	
		For Horizontal Service Car, Add	10,532.16	
22 13 33 00-0185	EA	60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3301)	131,642.24	1,149.17
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	10,863.73	
		For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0186	EA	85 HP, 6" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3301)	139,541.78	1,231.26
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	10,863.73	
		For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0187	EA	105 HP, 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3301)	147,995.24	1,313.34
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	10,863.73	
		For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0188	EA	70 To 90 HP, 14" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3315)	148,324.01	1,149.17
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	13,311.48	
		For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0189	EA	110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3315)	186,796.91	1,395.42
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	13,311.48	
		For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0190	EA	130 To 160 HP, 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump (Flygt NZ3315)	170,408.54	1,559.59
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	13,311.48	
		For Horizontal Service Car, Add	13,555.28	
22 13 33 00-0191	EA	3 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3085)	15,608.35	246.25
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,461.96	
22 13 33 00-0192	EA	4 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3085)	14,045.31	287.30
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,461.96	
22 13 33 00-0193	EA	5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3102)	18,612.39	328.34
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,344.94	
22 13 33 00-0194	EA	7 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3102)	18,175.91	410.42
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,344.94	
22 13 33 00-0195	EA	7.5 To 8.5 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3127)	26,538.47	451.46
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,705.76	
22 13 33 00-0196	EA	10 To 12 HP, 3" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3127)	29,180.49	492.51
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	3,705.76	
22 13 33 00-0197	EA	12 To 14 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)	42,520.47	533.55
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	6,943.42	
		For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0198	EA	15 To 17 HP, 3" To 10" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)	46,757.91	574.59
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	6,943.42	
		For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0199	EA	20 To 23 HP, 3" To 4" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3153)	50,493.35	656.68
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	6,943.42	
		For Horizontal Service Car, Add	6,914.17	
22 13 33 00-0200	EA	18 To 25 HP, 4" To 10" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)	64,386.47	738.76
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	5,714.67	
		For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0201	EA	30 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)	68,866.95	820.84
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	5,714.67	
		For Horizontal Service Car, Add	9,219.54	
22 13 33 00-0202	EA	34 To 35 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3171)	84,268.49	861.88
		Note: FLS and 50' electrical cable		
		For Steel Z Stand Kit, Add	5,714.67	
		For Horizontal Service Car, Add	9,219.54	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0203	EA		34 To 45 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3202) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	111,245.66 8,035.65 10,532.16	902.92
22 13 33 00-0204	EA		50 To 60 HP, 4" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3202) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	136,090.68 8,035.65 10,532.16	1,067.09
22 13 33 00-0205	EA		67 To 72 HP, 4" To 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3202) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	131,795.14 8,035.65 10,532.16	1,108.13
22 13 33 00-0206	EA		60 To 70 HP, 10" To 14" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	135,738.08 10,863.73 13,555.28	1,149.17
22 13 33 00-0207	EA		85 HP, 6" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	143,637.62 10,863.73 13,555.28	1,231.26
22 13 33 00-0208	EA		105 HP, 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3301) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	152,091.08 10,863.73 13,555.28	1,313.34
22 13 33 00-0209	EA		70 To 90 HP, 14" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	152,419.85 13,311.48 13,555.28	1,149.17
22 13 33 00-0210	EA		110 To 140 HP, 10" To 12" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	190,892.75 13,311.48 13,555.28	1,395.42
22 13 33 00-0211	EA		130 To 160 HP, 6" Discharge, Dry Pit Submersible Horizontal Explosion Proof Pump With Shielded Power Cable (Flygt NZ3315) Note: FLS and 50' electrical cable For Steel Z Stand Kit, Add For Horizontal Service Car, Add	174,709.17 13,311.48 13,555.28	1,559.59
22 13 33 00-0212			Submersible Pump Add-On Accessories (Flygt) (22 13 33 00-0001)		
22 13 33 00-0213	EA		3" Stainless Steel Discharge Connection Package for 2" Guide Rails Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	4,095.84	
22 13 33 00-0214	EA		4" Stainless Steel Discharge Connection Package for 2" Guide Rails Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	4,485.92	
22 13 33 00-0215	EA		6" Stainless Steel Discharge Connection Package for 2" Guide Rails Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	4,876.00	
22 13 33 00-0216	EA		8" Stainless Steel Discharge Connection Package for 2" Guide Rails Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	6,143.76	
22 13 33 00-0217	EA		6" Stainless Steel Discharge Connection Package for 3" Guide Rails Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	12,287.52	
22 13 33 00-0218	EA		8" Stainless Steel Discharge Connection Package for 3" Guide Rails Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	12,287.52	
22 13 33 00-0219	EA		10" Stainless Steel Discharge Connection Package for 3" Guide Rails Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	13,555.28	
22 13 33 00-0220	EA		12" Stainless Steel Discharge Connection Package for 3" Guide Rails Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	17,651.12	
22 13 33 00-0221	EA		14" Stainless Steel Discharge Connection Package for 3" Guide Rails Note: Includes cast iron discharge connection, stainless steel upper guide bar bracket, stainless steel safety hook, and stainless steel 20' lifting cable	20,479.20	
22 13 33 00-0222	EA		Mini CAS Unit: Thermal and Seal Protection Relay Unit Price	1,004.46	
22 13 33 00-0223			Submersible Pumps (Vaughan) (22 13 33)		
22 13 33 00-0224			Electric Submersible Pumps (Vaughan) (22 13 33 00-0223)		
22 13 33 00-0225	EA		5 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3F/3G)	18,052.62	328.34
22 13 33 00-0226	EA		7.5 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3F/3G)	20,340.85	410.42
22 13 33 00-0227	EA		5 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3L/3M)	20,135.65	328.34
22 13 33 00-0228	EA		7.5 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3L/3M)	22,189.83	410.42



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0229 EA 10 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3L/3M)	24,245.98	492.51
22 13 33 00-0230 EA 15 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3L/3M)	26,649.29	574.59
22 13 33 00-0231 EA 7.5 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3P)	23,346.42	410.42
22 13 33 00-0232 EA 10 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3P)	25,287.49	492.51
22 13 33 00-0233 EA 15 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3P)	27,573.78	574.59
22 13 33 00-0234 EA 20 HP, 1750 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3P)	28,935.58	656.68
22 13 33 00-0235 EA 15 HP, 3510 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3V/3W)	28,268.12	574.59
22 13 33 00-0236 EA 20 HP, 3510 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3V/3W)	29,629.92	656.68
22 13 33 00-0237 EA 25 HP, 3510 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3V/3W)	33,767.14	738.76
22 13 33 00-0238 EA 30 HP, 3510 RPM, 230/460 Volt, 3" Electric Submersible Pump (Vaughan 3V/3W)	35,591.18	820.84
22 13 33 00-0239 EA 5 HP, 870 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L)	28,461.91	328.34
22 13 33 00-0240 EA 5 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L)	24,182.73	328.34
22 13 33 00-0241 EA 5 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L)	21,695.97	328.34
22 13 33 00-0242 EA 7.5 HP, 870 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L)	30,401.01	410.42
22 13 33 00-0243 EA 7.5 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L)	26,121.84	410.42
22 13 33 00-0244 EA 7.5 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L)	23,808.66	410.42
22 13 33 00-0245 EA 10 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L)	27,715.74	492.51
22 13 33 00-0246 EA 10 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L)	25,749.74	492.51
22 13 33 00-0247 EA 15 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L)	28,036.03	574.59
22 13 33 00-0248 EA 20 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L)	29,514.85	656.68
22 13 33 00-0249 EA 25 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4K/4L)	33,072.79	738.76
22 13 33 00-0250 EA 5 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	26,033.66	328.34
22 13 33 00-0251 EA 7.5 HP, 870 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	32,251.94	410.42
22 13 33 00-0252 EA 7.5 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	27,972.77	410.42
22 13 33 00-0253 EA 10 HP, 870 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	33,036.43	492.51
22 13 33 00-0254 EA 10 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	29,566.67	492.51
22 13 33 00-0255 EA 15 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	33,471.79	574.59
22 13 33 00-0256 EA 15 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	29,886.95	574.59
22 13 33 00-0257 EA 20 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	35,180.76	656.68
22 13 33 00-0258 EA 20 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	30,786.51	656.68
22 13 33 00-0259 EA 25 HP, 1170 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	39,087.83	738.76
22 13 33 00-0260 EA 25 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	34,461.48	738.76
22 13 33 00-0261 EA 30 HP, 1750 RPM, 230/460 Volt, 4" Electric Submersible Pump (Vaughan 4S/4T)	38,598.70	820.84
22 13 33 00-0262 EA 5 HP, 870 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	36,558.02	328.34
22 13 33 00-0263 EA 7.5 HP, 870 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	38,959.37	410.42
22 13 33 00-0264 EA 7.5 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	34,680.19	410.42
22 13 33 00-0265 EA 10 HP, 870 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	39,628.78	492.51
22 13 33 00-0266 EA 10 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	36,159.02	492.51
22 13 33 00-0267 EA 15 HP, 870 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	47,580.98	574.59
22 13 33 00-0268 EA 15 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	40,064.14	574.59
22 13 33 00-0269 EA 20 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	41,658.04	656.68
22 13 33 00-0270 EA 25 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	45,563.16	738.76
22 13 33 00-0271 EA 25 HP, 1750 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	40,936.81	738.76
22 13 33 00-0272 EA 30 HP, 1170 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	47,619.30	820.84
22 13 33 00-0273 EA 30 HP, 1750 RPM, 230/460 Volt, 6" Electric Submersible Pump (Vaughan 6U/6W/6X)	45,074.02	820.84
22 13 33 00-0274 EA 10 HP, 870 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	42,634.35	492.51
22 13 33 00-0275 EA 15 HP, 870 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	50,588.50	574.59
22 13 33 00-0276 EA 15 HP, 1170 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	42,956.59	574.59
22 13 33 00-0277 EA 20 HP, 870 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	59,699.24	656.68
22 13 33 00-0278 EA 20 HP, 1170 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	44,663.60	656.68
22 13 33 00-0279 EA 25 HP, 870 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	60,366.69	738.76
22 13 33 00-0280 EA 25 HP, 1170 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	48,570.67	738.76
22 13 33 00-0281 EA 30 HP, 870 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	63,347.32	820.84
22 13 33 00-0282 EA 30 HP, 1170 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8N)	50,509.79	820.84
22 13 33 00-0283 EA 30 HP, 1170 RPM, 230/460 Volt, 8" Electric Submersible Pump (Vaughan 8P)	50,509.79	820.84
22 13 33 00-0284 EA 25 HP, 870 RPM, 230/460 Volt, 10" Electric Submersible Pump (Vaughan 10R)	69,157.14	738.76
22 13 33 00-0285 EA 30 HP, 870 RPM, 230/460 Volt, 10" Electric Submersible Pump (Vaughan 10R)	72,137.77	820.84
22 13 33 00-0286 EA 30 HP, 1170 RPM, 230/460 Volt, 10" Electric Submersible Pump (Vaughan 10R)	59,647.41	820.84
22 13 33 00-0287 Horizontal Chopper Pumps (Vaughan) (22 13 33 00-0223)		
22 13 33 00-0288 EA 3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE3F6/HE3G6)	18,489.92	513.02
For Stool, Deduct	-682.64	
For Coupling, Deduct	-195.04	
For Base, Deduct	-1,072.72	
22 13 33 00-0289 EA 3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE3L6/HE3M6)	19,414.41	513.02
For Stool, Deduct	-682.64	
For Coupling, Deduct	-195.04	
For Base, Deduct	-1,072.72	
22 13 33 00-0290 EA 3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE3P6)	19,876.66	513.02
For Stool, Deduct	-682.64	
For Coupling, Deduct	-195.04	
For Base, Deduct	-1,072.72	
22 13 33 00-0291 EA 3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE3V6/HE3W6)	19,876.66	513.02
For Stool, Deduct	-682.64	
For Coupling, Deduct	-195.04	
For Base, Deduct	-1,072.72	
22 13 33 00-0292 EA 3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE4K6/HE4L6)	20,546.07	615.63
For Stool, Deduct	-682.64	
For Coupling, Deduct	-195.04	
For Base, Deduct	-1,072.72	



	Plumbing	22	
	Plumbing Piping	22 10	22
	Facility Sanitary Sewerage	22 13	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0293	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE4S6/HE4T6)	.....	21,470.56	615.63
		For Stool, Deduct		-682.64	
		For Coupling, Deduct		-195.04	
		For Base, Deduct		-1,072.72	
22 13 33 00-0294	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE6U8)	.....	23,629.31	769.53
		For Stool, Deduct		-682.64	
		For Coupling, Deduct		-195.04	
		For Base, Deduct		-1,072.72	
22 13 33 00-0295	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan HE6W8/6X)	.....	23,629.31	769.53
		For Stool, Deduct		-682.64	
		For Coupling, Deduct		-195.04	
		For Base, Deduct		-1,072.72	
22 13 33 00-0296	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE3F6/HE3G6)	.....	18,952.17	513.02
		For Stool, Deduct		-682.64	
		For Coupling, Deduct		-195.04	
		For Base, Deduct		-1,072.72	
22 13 33 00-0297	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE3L6/HE3M6)	.....	19,876.66	513.02
		For Stool, Deduct		-682.64	
		For Coupling, Deduct		-195.04	
		For Base, Deduct		-1,072.72	
22 13 33 00-0298	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE3P6)	.....	20,340.85	513.02
		For Stool, Deduct		-682.64	
		For Coupling, Deduct		-195.04	
		For Base, Deduct		-1,072.72	
22 13 33 00-0299	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE3V6/HE3W6)	.....	20,340.85	513.02
		For Stool, Deduct		-682.64	
		For Coupling, Deduct		-195.04	
		For Base, Deduct		-1,072.72	
22 13 33 00-0300	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE4K6/HE4L6)	.....	21,008.32	615.63
		For Stool, Deduct		-682.64	
		For Coupling, Deduct		-195.04	
		For Base, Deduct		-1,072.72	
22 13 33 00-0301	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE4S6/HE4T6)	.....	21,932.81	615.63
		For Stool, Deduct		-682.64	
		For Coupling, Deduct		-195.04	
		For Base, Deduct		-1,072.72	
22 13 33 00-0302	EA	3" - 6", Ductile Iron And Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan HE6U8)	.....	24,091.56	769.53
		For Stool, Deduct		-682.64	
		For Coupling, Deduct		-195.04	
		For Base, Deduct		-1,072.72	
22 13 33 00-0303	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE3F6/STHE3G6)	.....	26,238.86	513.02
22 13 33 00-0304	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE3L6/STHE3M6)	.....	27,395.45	513.02
22 13 33 00-0305	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE3P6)	.....	28,552.04	513.02
22 13 33 00-0306	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE3V6/STHE3W6)	.....	28,552.04	513.02
22 13 33 00-0307	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE4K6/STHE4L6)	.....	29,219.50	615.63
22 13 33 00-0308	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE4S6/STHE4T6)	.....	35,694.83	615.63
22 13 33 00-0309	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE6U8)	.....	43,636.51	769.53
22 13 33 00-0310	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Packing (Vaughan STHE6W8/6X)	.....	43,636.51	769.53
22 13 33 00-0311	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE3F6/STHE3G6)	.....	26,701.11	513.02
22 13 33 00-0312	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE3L6/STHE3M6)	.....	27,857.69	513.02
22 13 33 00-0313	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE3P6)	.....	29,014.28	513.02
22 13 33 00-0314	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE3V6/STHE3W6)	.....	29,014.28	513.02
22 13 33 00-0315	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE4K6/STHE4L6)	.....	29,681.74	615.63
22 13 33 00-0316	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE4S6/STHE4T6)	.....	36,159.02	615.63
22 13 33 00-0317	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE6U8)	.....	44,098.76	769.53
22 13 33 00-0318	EA	3" - 6", Stainless Steel, Horizontal Chopper Pump With Mechanical Seal (Vaughan STHE6W8/6X)	.....	44,098.76	769.53
22 13 33 00-0319		Horizontal End Suction Pumps (Vaughan) (22 13 33 00-0223)			
22 13 33 00-0320	EA	8" - 12", Upgraded Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8K-HES)	.....	37,931.24	923.44
		For Stool, Deduct		-975.20	
		For No Base, Deduct		-1,950.40	
		For Coupling, Deduct		-390.08	
22 13 33 00-0321	EA	8" - 12", Upgraded Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8K-HET)	.....	40,244.41	923.44
		For Stool, Deduct		-975.20	
		For No Base, Deduct		-1,950.40	
		For Coupling, Deduct		-390.08	
22 13 33 00-0322	EA	8" - 12", Standard Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HE)	.....	46,951.84	923.44
		For Stool, Deduct		-975.20	
		For No Base, Deduct		-1,950.40	
		For Coupling, Deduct		-390.08	
22 13 33 00-0323	EA	8" - 12", Standard Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HER)	.....	46,951.84	923.44
		For Stool, Deduct		-975.20	
		For No Base, Deduct		-1,950.40	
		For Coupling, Deduct		-390.08	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0324	EA		8" - 12", Upgraded Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HES).....	49,265.01	923.44
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-1,950.40	
			For Coupling, Deduct	-390.08	
22 13 33 00-0325	EA		8" - 12", Standard Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 8N-HE)	46,951.84	923.44
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-1,950.40	
			For Coupling, Deduct	-390.08	
22 13 33 00-0326	EA		8" - 12", Standard Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 10R-HE)	63,784.63	1,128.66
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-2,145.44	
			For Coupling, Deduct	-390.08	
22 13 33 00-0327	EA		8" - 12", Standard Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 10R-HER)	63,784.63	1,128.66
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-2,145.44	
			For Coupling, Deduct	-390.08	
22 13 33 00-0328	EA		8" - 12", Standard Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 12W-HE)	75,760.91	1,333.87
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-2,340.48	
			For Coupling, Deduct	-390.08	
22 13 33 00-0329	EA		8" - 12", Standard Roller Thrust And Radial Bearing, Ductile Iron And Stainless Steel, Horizontal End Suction Pump (Vaughan 12W-HER)	75,760.91	1,333.87
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-2,340.48	
			For Coupling, Deduct	-390.08	
22 13 33 00-0330	EA		8" - 12", Upgraded Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8K-HES).....	62,449.72	923.44
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-1,950.40	
			For Coupling, Deduct	-390.08	
22 13 33 00-0331	EA		8" - 12", Upgraded Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8K-HET).....	64,762.89	923.44
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-1,950.40	
			For Coupling, Deduct	-390.08	
22 13 33 00-0332	EA		8" - 12", Standard Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HE).....	80,028.67	923.44
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-1,950.40	
			For Coupling, Deduct	-390.08	
22 13 33 00-0333	EA		8" - 12", Standard Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HER).....	80,028.67	923.44
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-1,950.40	
			For Coupling, Deduct	-390.08	
22 13 33 00-0334	EA		8" - 12", Upgraded Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8P-HES).....	82,341.85	923.44
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-1,950.40	
			For Coupling, Deduct	-390.08	
22 13 33 00-0335	EA		8" - 12", Standard Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 8N-HE).....	80,028.67	923.44
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-1,950.40	
			For Coupling, Deduct	-390.08	
22 13 33 00-0336	EA		8" - 12", Standard Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 10R-HE).....	104,725.47	1,128.66
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-2,145.44	
			For Coupling, Deduct	-390.08	
22 13 33 00-0337	EA		8" - 12", Standard Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 10R-HER).....	104,725.47	1,128.66
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-2,145.44	
			For Coupling, Deduct	-390.08	
22 13 33 00-0338	EA		8" - 12", Standard Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 12W-HE).....	122,714.84	1,333.87
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-2,340.48	
			For Coupling, Deduct	-390.08	
22 13 33 00-0339	EA		8" - 12", Standard Roller Thrust And Radial Bearing, Stainless Steel, Horizontal End Suction Pump (Vaughan 12W-HER).....	122,714.84	1,333.87
			For Stool, Deduct	-975.20	
			For No Base, Deduct	-2,340.48	
			For Coupling, Deduct	-390.08	
22 13 33 00-0340			Vertical Pedestal Chopper Pumps (Vaughan) (22 13 33 00-0223)		
22 13 33 00-0341	EA		3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE3F6/PE3G6).....	18,489.92	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33 00-0342	EA		3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE3L6/PE3M6).....	19,414.41	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33	00-0343	EA	3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE3P6)	19,876.66	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0344	EA	3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE3V6/PE3W6)	19,876.66	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0345	EA	3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE4K6/PE4L6)	20,546.07	615.63
			For Pedestal, Deduct	-1,222.06	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0346	EA	3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE4S6/PE4T6)	21,470.56	615.63
			For Pedestal, Deduct	-1,222.06	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0347	EA	3" - 6", Vertical Pedestal Chopper Pump With Packing (Vaughan PE6U8)	24,091.56	769.53
			For pedestal, Deduct	-1,560.32	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0348	EA	Ductile Iron And Stainless Steel, Upgraded Roller Thrust And Radial Bearing, Vertical Dry Pit Pedestal (Vaughan 8K-PES)	38,623.63	923.44
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,340.48	
22 13 33	00-0349	EA	3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE3F6/PE3G6)	18,952.17	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0350	EA	Ductile Iron And Stainless Steel, Standard Bearing, Vertical Dry Pit Pedestal (Vaughan 8P-PE)	47,876.33	923.44
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,340.48	
			For Stool, Deduct	-975.20	
22 13 33	00-0351	EA	3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE3L6/PE3M6)	19,876.66	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0352	EA	Ductile Iron And Stainless Steel, Standard Roller Thrust And Radial Bearing, Vertical Dry Pit Pedestal (Vaughan 8P-PER)	47,876.33	923.44
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,340.48	
22 13 33	00-0353	EA	3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE3P6)	20,340.85	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0354	EA	Ductile Iron And Stainless Steel, Standard Bearing, Vertical Dry Pit Pedestal (Vaughan 8N-PE)	47,876.33	923.44
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,340.48	
22 13 33	00-0355	EA	3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE3V6/PE3W6)	20,340.85	513.02
			For Pedestal, Deduct	-1,072.72	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0356	EA	Ductile Iron And Stainless Steel, Standard Bearing, Vertical Dry Pit Pedestal (Vaughan 10R-PE)	65,403.46	1,128.66
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,535.52	
22 13 33	00-0357	EA	3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE4K6/PE4L6)	21,008.32	615.63
			For Pedestal, Deduct	-1,222.06	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0358	EA	Ductile Iron And Stainless Steel, Standard Bearing, Vertical Dry Pit Pedestal (Vaughan 12W-PE)	77,379.74	1,333.87
			For No Stool, Deduct	-975.20	
			For No Coupling, Deduct	-390.08	
			For No Pedestal, Deduct	-2,730.56	
22 13 33	00-0359	EA	3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE4S6/PE4T6)	21,932.81	615.63
			For Pedestal, Deduct	-1,222.06	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0360	EA	3" - 6", Vertical Pedestal Chopper Pump With Mechanical Seal (Vaughan PE6W8/6X)	24,553.80	769.53
			For pedestal, Deduct	-1,560.32	
			For Stool, Deduct	-682.64	
			For Coupling, Deduct	-195.04	
22 13 33	00-0361	Submersible Pump Accessories (Vaughan) (22 13 33)			
22 13 33	00-0362	EA	Guide Rail Adapter Bracket For 3" Submersible Pump	1,156.59	
22 13 33	00-0363	EA	Discharge Elbow Base For 3" Submersible Pump	1,707.07	58.90
22 13 33	00-0364	EA	Top Guide Rail And Lift Chain Bracket For 3" Submersible Pump	484.17	10.83
22 13 33	00-0365	EA	Intermediate Guide Rail Support Bracket (Every 10') For 3" Submersible Pump	462.24	
22 13 33	00-0366	EA	Class 1, Guide Rail Adapter Bracket For 3" Submersible Pump	3,007.52	
22 13 33	00-0367	EA	Class 1, Discharge Elbow Base For 3" Submersible Pump	1,618.83	
22 13 33	00-0368	EA	Class 1, Top Guide Rail And Lift Chain Bracket For 3" Submersible Pump	484.17	10.83



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0369 EA Class 1, Intermediate Guide Rail Support Bracket (Every 10') For 3" Submersible Pump.....	462.24	
22 13 33 00-0370 EA 25', 316 Stainless Steel, Safety Lift Cable With Stainless Steel Clevis For 3" Submersible Pump	809.42	
22 13 33 00-0371 EA 25', Galvanized, Safety Chain With Hook For 3" Submersible Pump.....	694.34	
22 13 33 00-0372 EA 25", 316 Stainless Steel, Safety Chain With Clevis For 3" Submersible Pump.....	1,618.83	
22 13 33 00-0373 LF Galvanized Pipe, Guide Rails For 3" Submersible Pump	92.14	10.83
22 13 33 00-0374 LF 316 Stainless Steel Pipe, Guide Rails For 3" Submersible Pump.....	172.11	10.83
22 13 33 00-0375 EA Stainless Steel, Cable Holder Bracket For 3" Submersible Pump	577.32	
22 13 33 00-0376 EA Guide Rail Adapter Bracket For 4" Submersible Pump.....	1,388.68	
22 13 33 00-0377 EA Discharge Elbow Base For 4" Submersible Pump.....	1,953.63	68.44
22 13 33 00-0378 EA Top Guide Rail And Lift Chain Bracket For 4" Submersible Pump.....	484.17	10.83
22 13 33 00-0379 EA Intermediate Guide Rail Support Bracket (Every 10') For 4" Submersible Pump.....	485.65	
22 13 33 00-0380 EA Class 1, Guide Rail Adapter Bracket For 4" Submersible Pump.....	3,237.66	
22 13 33 00-0381 EA Class 1, Discharge Elbow Base For 4" Submersible Pump.....	1,850.93	
22 13 33 00-0382 EA Class 1, Top Guide Rail And Lift Chain Bracket For 4" Submersible Pump.....	484.17	10.83
22 13 33 00-0383 EA Class 1, Intermediate Guide Rail Support Bracket (Every 10') For 4" Submersible Pump.....	485.65	
22 13 33 00-0384 EA 25', 316 Stainless Steel, Safety Lift Cable With Stainless Steel Clevis For 4" Submersible Pump	809.42	
22 13 33 00-0385 EA 25', Galvanized, Safety Chain With Hook For 4" Submersible Pump.....	694.34	
22 13 33 00-0386 EA 25", 316 Stainless Steel, Safety Chain With Clevis For 4" Submersible Pump.....	1,618.83	
22 13 33 00-0387 EA Galvanized Pipe, Guide Rails For 4" Submersible Pump	70.21	
22 13 33 00-0388 EA 316 Stainless Steel Pipe, Guide Rails For 4" Submersible Pump.....	172.11	10.83
22 13 33 00-0389 EA Stainless Steel, Cable Holder Bracket For 4" Submersible Pump	577.32	
22 13 33 00-0390 EA Portable Stand For 4" Submersible Pump	924.49	
22 13 33 00-0391 EA Guide Rail Adapter Bracket For 6" Submersible Pump.....	1,618.83	
22 13 33 00-0392 EA Discharge Elbow Base For 6" Submersible Pump.....	2,446.55	88.96
22 13 33 00-0393 EA Top Guide Rail And Lift Chain Bracket For 6" Submersible Pump.....	484.17	10.83
22 13 33 00-0394 EA Intermediate Guide Rail Support Bracket (Every 10') For 6" Submersible Pump.....	509.05	
22 13 33 00-0395 EA Class 1, Guide Rail Adapter Bracket For 6" Submersible Pump.....	3,469.76	
22 13 33 00-0396 EA Class 1, Discharge Elbow Base For 6" Submersible Pump.....	2,313.17	
22 13 33 00-0397 EA Class 1, Top Guide Rail And Lift Chain Bracket For 6" Submersible Pump.....	484.17	10.83
22 13 33 00-0398 EA Class 1, Intermediate Guide Rail Support Bracket (Every 10') For 6" Submersible Pump.....	509.05	
22 13 33 00-0399 EA 25', 316 Stainless Steel, Safety Lift Cable With Stainless Steel Clevis For 6" Submersible Pump	809.42	
22 13 33 00-0400 EA 25', Galvanized, Safety Chain With Hook For 6" Submersible Pump.....	694.34	
22 13 33 00-0401 EA 25", 316 Stainless Steel, Safety Chain With Clevis For 6" Submersible Pump.....	1,618.83	
22 13 33 00-0402 EA Galvanized Pipe, Guide Rails For 6" Submersible Pump	70.21	
22 13 33 00-0403 EA 316 Stainless Steel Pipe, Guide Rails For 6" Submersible Pump.....	172.11	10.83
22 13 33 00-0404 EA Stainless Steel, Cable Holder Bracket For 6" Submersible Pump	577.32	
22 13 33 00-0405 EA Portable Stand For 6" Submersible Pump	924.49	
22 13 33 00-0406 EA Guide Rail Adapter Bracket For 8" Submersible Pump.....	2,081.08	
22 13 33 00-0407 EA Discharge Elbow Base For 8" Submersible Pump.....	3,617.51	98.50
22 13 33 00-0408 EA Intermediate Guide Rail Support Bracket (Every 10') For 8" Submersible Pump.....	809.42	
22 13 33 00-0409 EA Class 1, Guide Rail Adapter Bracket For 8" Submersible Pump.....	3,932.01	
22 13 33 00-0410 EA Class 1, Discharge Elbow Base For 8" Submersible Pump.....	3,469.76	
22 13 33 00-0411 EA Class 1, Top Guide Rail And Lift Chain Bracket For 8" Submersible Pump.....	716.27	10.83
22 13 33 00-0412 EA Class 1, Intermediate Guide Rail Support Bracket (Every 10') For 8" Submersible Pump.....	809.42	
22 13 33 00-0413 EA 25', 316 Stainless Steel, Safety Lift Cable With Stainless Steel Clevis For 8" Submersible Pump	1,733.91	
22 13 33 00-0414 EA 25', Galvanized, Safety Chain With Hook For 8" Submersible Pump.....	1,388.68	
22 13 33 00-0415 EA 25", 316 Stainless Steel, Safety Chain With Clevis For 8" Submersible Pump.....	3,932.01	
22 13 33 00-0416 EA Galvanized Pipe, Guide Rails For 8" Submersible Pump	115.07	
22 13 33 00-0417 EA 316 Stainless Steel Pipe, Guide Rails For 8" Submersible Pump.....	254.03	10.83
22 13 33 00-0418 EA Stainless Steel, Cable Holder Bracket For 8" Submersible Pump	577.32	
22 13 33 00-0419 EA Portable Stand For 8" Submersible Pump	2,081.08	
22 13 33 00-0420 EA Guide Rail Adapter Bracket For 10" Submersible Pump.....	2,545.27	
22 13 33 00-0421 EA Discharge Elbow Base For 10" Submersible Pump.....	4,094.12	107.74
22 13 33 00-0422 EA Straight Thru Discharge Base For 10" Submersible Pump	3,932.01	
22 13 33 00-0423 EA Top Guide Rail And Lift Chain Bracket For 10" Submersible Pump.....	716.27	10.94
22 13 33 00-0424 EA Intermediate Guide Rail Support Bracket (Every 10') For 10" Submersible Pump.....	1,542.77	
22 13 33 00-0425 EA Class 1, Guide Rail Adapter Bracket For 10" Submersible Pump.....	5,320.69	
22 13 33 00-0426 EA Class 1, Discharge Elbow Base For 10" Submersible Pump	3,932.01	
22 13 33 00-0427 EA Class 1, Straight Thru Discharge Base For 10" Submersible Pump	3,932.01	
22 13 33 00-0428 EA Class 1, Top Guide Rail And Lift Chain Bracket For 10" Submersible Pump.....	716.27	10.94
22 13 33 00-0429 EA Class 1, Intermediate Guide Rail Support Bracket (Every 10') For 10" Submersible Pump.....	1,156.59	
22 13 33 00-0430 EA 25', 316 Stainless Steel, Safety Lift Cable With Stainless Steel Clevis For 10" Submersible Pump	1,733.91	
22 13 33 00-0431 EA 25', Galvanized, Safety Chain With Hook For 10" Submersible Pump.....	1,388.68	
22 13 33 00-0432 EA 25", 316 Stainless Steel, Safety Chain With Clevis For 10" Submersible Pump.....	3,932.01	
22 13 33 00-0433 EA Galvanized Pipe, Guide Rails For 10" Submersible Pump	137.00	10.94
22 13 33 00-0434 EA 316 Stainless Steel Pipe, Guide Rails For 10" Submersible Pump.....	254.03	10.94
22 13 33 00-0435 EA Stainless Steel, Cable Holder Bracket For 10" Submersible Pump	577.32	
22 13 33 00-0436 EA Portable Stand For 10" Submersible Pump	2,081.08	
22 13 33 00-0437 EA 5 - 15 HP, 3" - 6" Pump Belt Drive	2,775.42	
22 13 33 00-0438 EA 20 - 30 HP, 3" - 6" Pump Belt Drive	3,007.52	
22 13 33 00-0439 EA 40 - 50 HP, 3" - 6" Pump Belt Drive	3,237.66	
22 13 33 00-0440 EA 60 - 75 HP, 3" - 6" Pump Belt Drive	3,469.76	
22 13 33 00-0441 EA 100 HP, 3" - 6" Pump Belt Drive	3,701.86	
22 13 33 00-0442 EA 5 - 15 HP, 8" - 12" Pump Belt Drive	4,164.10	
22 13 33 00-0443 EA 20 - 30 HP, 8" - 12" Pump Belt Drive	4,394.25	
22 13 33 00-0444 EA 40 - 50 HP, 8" - 12" Pump Belt Drive	4,626.35	
22 13 33 00-0445 EA 60 - 75 HP, 8" - 12" Pump Belt Drive	4,856.50	
22 13 33 00-0446 EA 100 HP, 8" - 12" Pump Belt Drive	5,320.69	
22 13 33 00-0447 EA 125 HP, 8" - 12" Pump Belt Drive	6,245.18	
22 13 33 00-0448 EA 150 - 200 HP, 8" - 12" Pump Belt Drive	6,477.28	



Plumbing			22
Plumbing Piping			22 10
Facility Sanitary Sewerage			22 13

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0449			Submersible Pumps (Zoeller) (22 13 33)		
22 13 33 00-0450	EA		.5 HP, 2" Discharge, 1750 RPM, Vortex Impeller With 25' Cord (Zoeller 6282).....	3,213.38	287.30
			For Moisture Probe, Add	257.45	
			For 3 Phase Adder, Add	160.91	
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 50' Cord Adder, Add	268.18	
22 13 33 00-0451	EA		1 HP, 2" Discharge, 1750 RPM, Vortex Impeller With 25' Cord (Zoeller 6284).....	3,494.84	328.34
			For Moisture Probe, Add	257.45	
			For 3 Phase Adder, Add	160.91	
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 50' Cord Adder, Add	268.18	
22 13 33 00-0452	EA		1 HP, 2" Discharge, 3450 RPM, Vortex Impeller With 25' Cord (Zoeller 6292).....	3,384.64	328.34
			For Moisture Probe, Add	257.45	
			For 3 Phase Adder, Add	160.91	
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 50' Cord Adder, Add	268.18	
22 13 33 00-0453	EA		.5 HP, 2" Discharge, 1750 RPM, Explosion Proof Vortex Impeller With 25' Cord (Zoeller X6282)	5,878.01	287.30
			For 3 Phase Adder, Add	160.91	
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 50' Cord Adder, Add	268.18	
22 13 33 00-0454	EA		1 HP, 2" Discharge, 1750 RPM, Explosion Proof Vortex Impeller With 25' Cord (Zoeller X6284)	6,521.27	328.34
			For 3 Phase Adder, Add	160.91	
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 50' Cord Adder, Add	268.18	
22 13 33 00-0455	EA		1 HP, 2" Discharge, 3450 RPM, Explosion Proof Vortex Impeller With 25' Cord (Zoeller X6292)	6,285.86	328.34
			For 3 Phase Adder, Add	160.91	
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 50' Cord Adder, Add	268.18	
22 13 33 00-0456	EA		1 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6120).....	7,188.51	328.34
22 13 33 00-0457	EA		1.5 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6121).....	7,715.25	441.20
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For Thermal And Moisture Sensors, Add	364.72	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0458	EA		2 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6122).....	7,864.40	554.06
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For Thermal And Moisture Sensors, Add	364.72	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0459	EA		3 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6123).....	8,645.86	666.93
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For Thermal And Moisture Sensors, Add	364.72	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0460	EA		5 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6124).....	9,698.43	779.80
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For Thermal And Moisture Sensors, Add	364.72	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0461	EA		7.5 HP, 3" Discharge, 1750 RPM, 61HD Semi-Open Impeller With 25' Cord (Zoeller 6125).....	12,036.32	892.66
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For Thermal And Moisture Sensors, Add	364.72	
			For 50' Cord Adder, Add	536.36	
22 13 33 00-0462	EA		1 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller X6120)	8,816.89	328.34
22 13 33 00-0463	EA		1.5 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller X6121)	9,176.29	441.20
			For Silicone Carbide / Silicone Carbide Seal	182.36	
			For Certified Test, Add	429.09	
			For 1 Phase Adder, Add	236.00	
			For 3" Solids Capacity, Add	600.72	
			For Impeller Trim, Add	321.82	
			For 50' Cord Adder, Add	536.36	

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 33 00-0464	EA	2 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller X6122).....	9,703.04	554.06
		For Silicone Carbide / Silicone Carbide Seal	182.36	
		For Certified Test, Add	429.09	
		For 1 Phase Adder, Add	236.00	
		For 3" Solids Capacity, Add	600.72	
		For Impeller Trim, Add	321.82	
		For 50' Cord Adder, Add	536.36	
22 13 33 00-0465	EA	3 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller X6123).....	10,420.73	666.93
		For Silicone Carbide / Silicone Carbide Seal	182.36	
		For Certified Test, Add	429.09	
		For 1 Phase Adder, Add	236.00	
		For 3" Solids Capacity, Add	600.72	
		For Impeller Trim, Add	321.82	
		For 50' Cord Adder, Add	536.36	
22 13 33 00-0466	EA	5 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller Engineered Products X6124).....	11,475.24	779.80
		For Silicone Carbide / Silicone Carbide Seal	182.36	
		For Certified Test, Add	429.09	
		For 1 Phase Adder, Add	236.00	
		For 3" Solids Capacity, Add	600.72	
		For Impeller Trim, Add	321.82	
		For 50' Cord Adder, Add	536.36	
22 13 33 00-0467	EA	7.5 HP, 3" Discharge, 1750 RPM, Explosion Proof, 61HD Semi-Open Impeller With 25' Cord (Zoeller X6125).....	12,036.32	892.66
		For Silicone Carbide / Silicone Carbide Seal	182.36	
		For Certified Test, Add	429.09	
		For 1 Phase Adder, Add	236.00	
		For 3" Solids Capacity, Add	600.72	
		For Impeller Trim, Add	321.82	
		For 50' Cord Adder, Add	536.36	
22 13 33 00-0468	EA	115 V/230 V, Variable Level Control Switch With 25' Cord (Zoeller 10-1877)	158.57	25.66
22 13 33 00-0469	EA	115 V/230 V, Variable Level Control Switch With 50' Cord (Zoeller 10-1879)	214.35	25.66
22 13 33 00-0470	EA	30 Volt DC / 125 Volt AC, Intrinsically Safe Variable Control Switch With 25' Cord (Zoeller 10-2066)	197.19	25.66
22 13 33 00-0471	EA	30 Volt DC / 125 Volt AC, Intrinsically Safe Variable Control Switch With 50' Cord (Zoeller 10-2068)	252.97	25.66
22 13 33 00-0472	EA	Stainless Steel, 4 Float Bracket (Zoeller 10-0253)	364.26	64.64
22 13 33 00-0473	EA	2" Z Rail Base Elbow And Disconnect (Zoeller 39-0128)	1,453.49	48.23
22 13 33 00-0474	EA	2" Z Rail Base Elbow And Disconnect With Stainless Steel Upper Rail Bracket (Zoeller 39-0129)	1,895.45	48.23
22 13 33 00-0475	EA	3" Base Elbow And Disconnect (Zoeller 39-0094)	2,484.70	58.48
22 13 33 00-0476	EA	4" Base Elbow And Disconnect (Zoeller 39-0016)	3,334.41	68.74
22 13 33 00-0477		Mounted Motors (Vaughan) (22 13 33)		
22 13 33 00-0478		C-FACE Mounted Motors (Vaughan) (22 13 33 00-0477)		
22 13 33 00-0479	EA	5 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 215TC)	3,502.19	245.99
22 13 33 00-0480	EA	5 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 215TC)	3,675.78	245.99
22 13 33 00-0481	EA	5 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 184TC)	2,230.53	245.99
22 13 33 00-0482	EA	5 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 184TC)	2,427.52	245.99
22 13 33 00-0483	EA	7.5 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 254TC)	4,720.43	245.99
22 13 33 00-0484	EA	7.5 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 254TC)	5,611.76	245.99
22 13 33 00-0485	EA	7.5 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 213TC)	3,043.08	245.99
22 13 33 00-0486	EA	7.5 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 213TC)	3,333.69	245.99
22 13 33 00-0487	EA	10 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 256TC)	5,879.35	430.47
22 13 33 00-0488	EA	10 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 256TC)	6,836.95	430.47
22 13 33 00-0489	EA	10 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 215TC)	3,486.21	430.47
22 13 33 00-0490	EA	10 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 215TC)	3,866.54	430.47
22 13 33 00-0491	EA	15 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 284TC)	7,807.91	430.47
22 13 33 00-0492	EA	15 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 284TC)	8,410.58	430.47
22 13 33 00-0493	EA	15 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 254TC)	4,917.42	430.47
22 13 33 00-0494	EA	15 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 254TC)	5,367.96	430.47
22 13 33 00-0495	EA	15 HP, 3510 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 254TC)	4,894.01	430.47
22 13 33 00-0496	EA	20 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 286TC)	9,663.70	614.96
22 13 33 00-0497	EA	20 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 286TC)	11,073.84	614.96
22 13 33 00-0498	EA	20 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 256TC)	6,067.16	614.96
22 13 33 00-0499	EA	20 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 256TC)	6,264.15	614.96
22 13 33 00-0500	EA	20 HP, 3510 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 256TC)	5,961.84	614.96
22 13 33 00-0501	EA	25 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 324TC)	11,430.81	614.96
22 13 33 00-0502	EA	25 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 324TC)	12,402.11	614.96
22 13 33 00-0503	EA	25 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 284TC)	7,428.59	614.96
22 13 33 00-0504	EA	25 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 284TC)	7,728.95	614.96
22 13 33 00-0505	EA	25 HP, 3510 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 284TSC)	7,255.00	614.96
22 13 33 00-0506	EA	30 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 326TC)	13,377.54	614.96
22 13 33 00-0507	EA	30 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 326TC)	14,118.69	614.96
22 13 33 00-0508	EA	30 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 286TC)	9,098.36	614.96
22 13 33 00-0509	EA	30 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 286TC)	9,412.38	614.96
22 13 33 00-0510	EA	40 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 364TC)	15,981.84	922.44
22 13 33 00-0511	EA	40 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 364TC)	20,261.02	922.44
22 13 33 00-0512	EA	40 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 324TC)	11,876.25	922.44
22 13 33 00-0513	EA	50 HP, 1170 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 365TC)	21,805.64	922.44
22 13 33 00-0514	EA	50 HP, 1170 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 365TC)	22,788.65	922.44
22 13 33 00-0515	EA	50 HP, 1750 RPM, High Efficiency, C-FACE Mounted Motor For Direct Drive Only (Vaughan 326TC)	12,346.20	922.44
22 13 33 00-0516	EA	50 HP, 1750 RPM, Chemical Duty, C-FACE Mounted Motor For Direct Drive Only (Vaughan 326TC)	13,535.95	922.44



Plumbing		22	22
Plumbing Piping		22 10	
Facility Sanitary Sewerage		22 13	

MINOR		TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION		UNIT COST		UNIT COST	
22 13 33 00-0517 Foot Mounted Motors (Vaughan) (22 13 33 00-0477)					
22 13 33 00-0518	EA	5 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 215T)	3,236.94		245.99
22 13 33 00-0519	EA	5 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 215T)	3,584.11		245.99
22 13 33 00-0520	EA	5 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 184T)	2,113.51		245.99
22 13 33 00-0521	EA	5 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 184T)	2,392.41		245.99
22 13 33 00-0522	EA	7.5 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 254T)	4,304.99		245.99
22 13 33 00-0523	EA	7.5 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 254T)	5,241.18		245.99
22 13 33 00-0524	EA	7.5 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 213T)	2,580.84		245.99
22 13 33 00-0525	EA	7.5 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 213T)	3,275.18		245.99
22 13 33 00-0526	EA	10 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 256T)	5,417.11		430.47
22 13 33 00-0527	EA	10 HP, 1170 RPM, hemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 256T)	6,480.08		430.47
22 13 33 00-0528	EA	10 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 215T)	3,207.31		430.47
22 13 33 00-0529	EA	10 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 215T)	3,809.98		430.47
22 13 33 00-0530	EA	15 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 284T)	7,195.48		430.47
22 13 33 00-0531	EA	15 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 284T)	7,924.93		430.47
22 13 33 00-0532	EA	15 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 254T)	4,234.78		430.47
22 13 33 00-0533	EA	15 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 254T)	5,147.56		430.47
22 13 33 00-0534	EA	20 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 286T)	9,051.28		614.96
22 13 33 00-0535	EA	20 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 286T)	10,576.49		614.96
22 13 33 00-0536	EA	20 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 256T)	5,257.75		614.96
22 13 33 00-0537	EA	20 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 256T)	6,147.13		614.96
22 13 33 00-0538	EA	25 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 324T)	10,656.50		614.96
22 13 33 00-0539	EA	25 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 324T)	11,742.87		614.96
22 13 33 00-0540	EA	25 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 284T)	6,422.18		614.96
22 13 33 00-0541	EA	25 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 284T)	7,625.58		614.96
22 13 33 00-0542	EA	30 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 326T)	12,429.65		614.96
22 13 33 00-0543	EA	30 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 326T)	13,459.46		614.96
22 13 33 00-0544	EA	30 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 286T)	7,629.71		614.96
22 13 33 00-0545	EA	30 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 286T)	9,030.10		614.96
22 13 33 00-0546	EA	40 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 364T)	15,831.66		922.44
22 13 33 00-0547	EA	40 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 364T)	18,283.31		922.44
22 13 33 00-0548	EA	40 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 324T)	10,048.72		922.44
22 13 33 00-0549	EA	40 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 324T)	10,984.92		922.44
22 13 33 00-0550	EA	50 HP, 1170 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 365T)	20,660.76		922.44
22 13 33 00-0551	EA	50 HP, 1170 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 365T)	21,423.37		922.44
22 13 33 00-0552	EA	50 HP, 1750 RPM, High Efficiency, Foot Mount Motor For Belt Drive Only (Vaughan 326T)	12,022.44		922.44
22 13 33 00-0553	EA	50 HP, 1750 RPM, Chemical Duty, Foot Mount Motor For Belt Drive Only (Vaughan 326T)	12,785.04		922.44
22 13 33 00-0554 Submersible Pumps (Hayward Gordon) (22 13 33)					
22 13 33 00-0555 Chopper Pumps (Hayward Gordon) (22 13 33 00-0554)					
22 13 33 00-0556	EA	5 HP, 460 Volt, 60 Hertz, 28' Total Dynamic Head, 180 GPM, 1510 RPM, 3 Phase, Submersible Chopper Pump (Hayward Gordon)	32,417.32		328.34
22 13 33 00-0557	EA	20 HP, 460 Volt, 60 Hertz, 60' Total Dynamic Head, 600 GPM, 1570 RPM, 3 Phase Submersible Chopper Pump (Hayward Gordon 20-60-600-1570SP)	54,985.12		656.68
22 13 33 00-0558	EA	75 HP, 460 Volt, 60 Hertz, 29' Total Dynamic Head, 5500 GPM, 790 RPM, 3 Phase Submersible Chopper Pump (Hayward Gordon 75-29-5500-790SP)	103,440.23		1,108.13
22 13 33 00-0559 Recessed Impeller Centrifugal Pumps (Hayward Gordon) (22 13 33 00-0554)					
22 13 33 00-0560	EA	40 HP, 460 Volt, 60 Hertz, 65' Total Dynamic Head, 450 GPM, 1460 RPM, 3 Phase, Submersible Recessed Impeller Centrifugal Pump (Hayward Gordon)	46,726.43		902.92
22 13 33 00-0561	EA	50 HP, 460 Volt, 60 Hertz, 65' Total Dynamic Head, 1,000 GPM, 1550 RPM, 3 Phase, Submersible Recessed Impeller Centrifugal Pump (Hayward Gordon)	52,061.60		1,067.09
22 13 33 00-0562	EA	100 HP, 460 Volt, 60 Hertz, 130' Total Dynamic Head, 900 GPM, 1430 RPM, 3 Phase Submersible Recessed Impeller Centrifugal Pump (Hayward Gordon 100-130-900-1430SP)	85,756.02		1,313.34
22 13 33 00-0563	EA	100 HP, 460 Volt, 60 Hertz, 53' To 132' Total Dynamic Head, 952 GPM, 1450 RPM, 3 Phase Submersible Recessed Impeller Centrifugal Pump (Hayward Gordon)	85,756.02		1,313.34
22 13 33 00-0564 Screw Centrifugal Pumps (Hayward Gordon) (22 13 33 00-0554)					
22 13 33 00-0565	EA	25 HP, 460 Volt, 60 Hertz, 67' Total Dynamic Head, 900 GPM, 1700 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon)	44,268.09		738.76
22 13 33 00-0566	EA	60 HP, 460 Volt, 60 Hertz, 29' Total Dynamic Head, 1500 GPM, 1460 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon)	63,529.95		1,067.09
22 13 33 00-0567	EA	75 HP, 460 Volt, 60 Hertz, 67' Total Dynamic Head, 1440 GPM, 1510 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon)	72,038.79		1,108.13
22 13 33 00-0568	EA	75 HP, 460 Volt, 60 Hertz, 29' Total Dynamic Head, 5500 GPM, 970 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon 75-29-5500-970SP)	98,388.69		1,108.13
22 13 33 00-0569	EA	100 HP, 460 Volt, 60 Hertz, 44' Total Dynamic Head, 4514 GPM, 1030 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon)	97,731.48		1,313.34
22 13 33 00-0570	EA	100 HP, 460 Volt, 60 Hertz, 132' Total Dynamic Head, 900 GPM, 1690 RPM, 3 Phase Submersible Screw Centrifugal Pump (Hayward Gordon)	73,819.58		1,313.34
22 13 36 Packaged, Wastewater Pump Units (22 13)					
22 13 36 00-0001 Dri-Prime Pumps With Diesel Engine; Godwin Pumps, CD Series With PrimeGuard (22 13 36)					
22 13 36 00-0002	EA	4" Trailer Mounted Trash Pump (Godwin Pumps CD100M)	35,576.62		

22 Plumbing**22 10 Plumbing Piping****22 13 Facility Sanitary Sewerage**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 13 36 00-0003 EA 4" Skid Mounted Trash Pump (Godwin Pumps CD100M)	34,329.40	
22 13 36 00-0004 EA 6" Trailer Mounted Trash Pump (Godwin Pumps CD150M)	45,943.32	
22 13 36 00-0005 EA 6" Skid Mounted Trash Pump (Godwin Pumps CD150M)	44,307.18	
22 13 36 00-0006 EA 8" Trailer Mounted Trash Pump (Godwin Pumps CD225M)	64,926.60	
22 13 36 00-0007 EA 8" Skid Mounted Trash Pump (Godwin Pumps CD225M)	62,351.68	
22 13 36 00-0008 Dri-Prime Pumps Critically Silenced With Diesel Engine; Godwin Pumps, CD Series With PrimeGuard (22 13 36)		
22 13 36 00-0009 EA 4" Critically Silenced Trailer Mounted Trash Pump (Godwin Pumps CD100M)	53,842.40	
22 13 36 00-0010 EA 4" Critically Silenced Skid Mounted Trash Pump (Godwin Pumps CD100M)	48,793.16	
22 13 36 00-0011 EA 6" Critically Silenced Trailer Mounted Trash Pump (Godwin Pumps CD150M)	64,544.38	
22 13 36 00-0012 EA 6" Critically Silenced Skid Mounted Trash Pump (Godwin Pumps CD150M)	59,535.37	
22 13 36 00-0013 EA 8" Critically Silenced Trailer Mounted Trash Pump (Godwin Pumps CD225M)	81,609.88	
22 13 36 00-0014 EA 8" Critically Silenced Skid Mounted Trash Pump (Godwin Pumps CD225M)	74,535.58	
22 13 36 00-0015 Heidra Hydraulic Submersible Pumps With Diesel Engine; Godwin Pumps, HS Series With PrimeGuard (22 13 36)		
Note: Includes pump, pumpend, and hoses.		
22 13 36 00-0016 EA 4" Trailer Mounted Hydraulic Submersible Pump (Godwin Pumps HS100MR)	39,044.03	
Note: Includes pump, pumpend, two 3/4" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0017 EA 4" Skid Mounted Hydraulic Submersible Pump (Godwin Pumps HS100MR)	37,915.42	
Note: Includes pump, pumpend, two 3/4" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0018 EA 6" Trailer Mounted Hydraulic Submersible Pump (Godwin Pumps HS150MR)	52,594.36	
Note: Includes pump, pumpend, two 1" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0019 EA 6" Skid Mounted Hydraulic Submersible Pump (Godwin Pumps HS150MR)	50,883.92	
Note: Includes pump, pumpend, two 1" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0020 EA 8" Trailer Mounted Hydraulic Submersible Pump (Godwin Pumps HS200MR)	96,995.70	
Note: Includes pump, pumpend, two 1-1/4" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0021 EA 8" Skid Mounted Hydraulic Submersible Pump (Godwin Pumps HS200MR)	91,394.71	
Note: Includes pump, pumpend, two 1-1/4" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0022 Heidra Hydraulic Submersible Pumps Critically Silenced With Diesel Engine; Godwin Pumps, HS Series With PrimeGuard (22 13 36)		
Note: Includes pump, pumpend, and hoses.		
22 13 36 00-0023 EA 4" Trailer Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS100MR)	61,574.17	
Note: Includes pump, pumpend, two 3/4" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0024 EA 4" Skid Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS100MR)	56,674.18	
Note: Includes pump, pumpend, two 3/4" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0025 EA 6" Trailer Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS150MR)	77,262.55	
Note: Includes pump, pumpend, two 1" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0026 EA 6" Skid Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS150MR)	69,867.00	
Note: Includes pump, pumpend, two 1" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0027 EA 8" Trailer Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS200MR)	121,180.20	
Note: Includes pump, pumpend, two 1-1/4" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0028 EA 8" Skid Mounted Hydraulic Submersible Pump Critically Silenced (Godwin Pumps HS200MR)	111,962.05	
Note: Includes pump, pumpend, two 1-1/4" x 50' hoses and one 1/2" x 50' hose.		
22 13 36 00-0029 Auto Start Controls Accessories (22 13 36)		
22 13 36 00-0030 EA Two Float Assembly for Godwin PrimeGuard Controller	478.77	
22 13 36 00-0031 EA Level Transducer for Godwin PrimeGuard Controller	2,403.25	
22 13 36 00-0032 EA Pressure Transducer for Godwin PrimeGuard Controller	838.19	
22 13 36 00-0033 EA 3016D/4045D Auto Throttle for Godwin PrimeGuard Controller	1,401.45	
22 14 Facility Storm Drainage (22 10)		
22 14 13 Facility Storm Drainage Piping (22 14)		
See CSI section 22 13 16 00-0000 for storm drainage piping.		
22 14 26 Facility Storm Drains (22 14)		
22 14 26 13 Roof Drains (22 14 26)		
22 14 26 13-0001 Cast Iron Roof Drains (22 14 26 13)		
22 14 26 13-0002 Cast Iron Roof Drains With Large Polypropylene Dome (22 14 26 13-0001)		
Note: Dome free area is 124 square inches.		
22 14 26 13-0003 EA 15" Diameter Cast Iron Roof Drain With 2" Outlet, 124 Square Inch Free Area Polypropylene Dome	951.84	171.04
For Galvanized Iron Parts, Add		
For Deck Clamp Assembly, Add		
For Bronze Dome, Add		
For Drain Receiver, Add		
For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add		
22 14 26 13-0004 EA 15" Diameter Cast Iron Roof Drain With 3" Outlet, 124 Square Inch Free Area Polypropylene Dome	1,037.35	205.21
For Galvanized Iron Parts, Add		
For Deck Clamp Assembly, Add		
For Bronze Dome, Add		
For Drain Receiver, Add		
For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add		



Plumbing			22
Plumbing Piping			22 10
Facility Storm Drainage			22 14

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
22 14 26 13-0005	EA	15" Diameter Cast Iron Roof Drain With 4" Outlet, 124 Square Inch Free Area Polypropylene Dome <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Bronze Dome, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	1,122.85 518.00 130.00 448.80 147.00 357.00	256.51
22 14 26 13-0006	EA	15" Diameter Cast Iron Roof Drain With 5" Outlet, 124 Square Inch Free Area Polypropylene Dome <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Bronze Dome, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	1,513.07 518.00 130.00 448.80 147.00 357.00	307.81
22 14 26 13-0007	EA	15" Diameter Cast Iron Roof Drain With 6" Outlet, 124 Square Inch Free Area Polypropylene Dome <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Bronze Dome, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	1,555.82 518.00 130.00 448.80 147.00 357.00	341.98
22 14 26 13-0008	EA	15" Diameter Cast Iron Roof Drain With 8" Outlet, 124 Square Inch Free Area Polypropylene Dome <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Bronze Dome, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	1,849.97 518.00 130.00 448.80 147.00 357.00	359.12
22 14 26 13-0009	EA	15" Diameter Cast Iron Roof Drain With 10" Outlet, 124 Square Inch Free Area Polypropylene Dome <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Bronze Dome, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	2,529.44 518.00 130.00 448.80 147.00 357.00	371.94
22 14 26 13-0010		Cast Iron Roof Drains With Expansion Joint (22 14 26 13-0001) Note: With polypropylene dome. Dome free area is 124 square inches.		
22 14 26 13-0011	EA	15" Diameter Cast Iron Roof Drain With Expansion Joint, 2" Outlet, Polypropylene Dome <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	1,495.18 518.00 130.00 147.00 357.00	171.04
22 14 26 13-0012	EA	15" Diameter Cast Iron Roof Drain With Expansion Joint, 3" Outlet, Polypropylene Dome <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	1,618.64 518.00 130.00 147.00 357.00	205.21
22 14 26 13-0013	EA	15" Diameter Cast Iron Roof Drain With Expansion Joint, 4" Outlet, Polypropylene Dome <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	1,778.05 518.00 130.00 147.00 357.00	256.51
22 14 26 13-0014	EA	15" Diameter Cast Iron Roof Drain With Expansion Joint, 5" Outlet, Polypropylene Dome <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	2,465.90 518.00 130.00 147.00 357.00	307.81
22 14 26 13-0015	EA	15" Diameter Cast Iron Roof Drain With Expansion Joint, 6" Outlet, Polypropylene Dome <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	2,646.48 518.00 130.00 147.00 357.00	341.98
22 14 26 13-0016		Cast Iron Roof Drains With Flat Bronze Promenade Top (22 14 26 13-0001)		
22 14 26 13-0017	EA	14" x 14" Cast Iron Roof Drain With 2" Outlet, Bronze Promenade Top <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	2,083.50 480.00 130.00 147.00 357.00	171.04
22 14 26 13-0018	EA	14" x 14" Cast Iron Roof Drain With 3" Outlet, Bronze Promenade Top <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	2,169.01 480.00 130.00 147.00 357.00	205.21
22 14 26 13-0019	EA	14" x 14" Cast Iron Roof Drain With 4" Outlet, Bronze Promenade Top <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	2,254.51 480.00 130.00 147.00 357.00	256.51
22 14 26 13-0020	EA	14" x 14" Cast Iron Roof Drain With 5" Outlet, Bronze Promenade Top <i>For Galvanized Iron Parts, Add</i> <i>For Deck Clamp Assembly, Add</i> <i>For Drain Receiver, Add</i> <i>For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add</i>	2,627.96 480.00 130.00 147.00 357.00	307.81

22 Plumbing**22 10 Plumbing Piping****22 14 Facility Storm Drainage**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 13-0021	EA		14" x 14" Cast Iron Roof Drain With 6" Outlet, Bronze Promenade Top	2,670.71	341.98
			For Galvanized Iron Parts, Add	480.00	
			For Deck Clamp Assembly, Add	130.00	
			For Drain Receiver, Add	147.00	
			For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0022			Cast Iron Scupper Drain With L-Shaped Bronze Grate (22 14 26 13-0001)		
22 14 26 13-0023	EA		9" x 9" Cast Iron Scupper Drain With 2" Outlet, L-Shaped Bronze Grate	1,356.48	68.44
			For Vandal Proof Grate, Add	33.00	
			For Galvanized Cast Iron Parts, Add	128.00	
22 14 26 13-0024	EA		Cast Iron Scupper Drain With 3" Outlet, L-Shaped Bronze Grate	1,390.68	85.47
			For Vandal Proof Grate, Add	33.00	
			For Galvanized Cast Iron Parts, Add	128.00	
22 14 26 13-0025	EA		Cast Iron Scupper Drain With 4" Outlet, L-Shaped Bronze Grate	1,406.23	93.27
			For Vandal Proof Grate, Add	33.00	
			For Galvanized Cast Iron Parts, Add	128.00	
			For Galvanized Iron Parts, Add	258.00	
22 14 26 13-0026	EA		Cast Iron Scupper Drain With 5" Outlet, L-Shaped Bronze Grate	1,980.34	123.64
			For Vandal Proof Grate, Add	33.00	
			For Galvanized Iron Parts, Add	258.00	
22 14 26 13-0027	EA		Cast Iron Scupper Drain With 6" Outlet, L-Shaped Bronze Grate	2,034.88	150.93
			For Vandal Proof Grate, Add	33.00	
			For Galvanized Iron Parts, Add	258.00	
22 14 26 13-0028			Cast Iron Roof Drain With Flat Cast Iron Grate (22 14 26 13-0001)		
			Note: Grate free area is 27 square inches.		
22 14 26 13-0029	EA		9" x 9" Cast Iron Roof Drain With 2" Outlet, Cast Iron Promenade Top	1,048.24	171.04
			For Galvanized Iron Parts, Add	144.00	
			For Deck Clamp Assembly, Add	80.40	
			For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	93.60	
22 14 26 13-0030	EA		9" x 9" Cast Iron Roof Drain With 3" Outlet, Cast Iron Promenade Top	1,133.75	205.21
			For Galvanized Iron Parts, Add	144.00	
			For Deck Clamp Assembly, Add	80.40	
			For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	93.60	
22 14 26 13-0031	EA		9" x 9" Cast Iron Roof Drain With 4" Outlet, Cast Iron Promenade Top	1,219.25	256.51
			For Galvanized Iron Parts, Add	144.00	
			For Deck Clamp Assembly, Add	80.40	
			For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	93.60	
22 14 26 13-0032			Cast Iron Roof Drains With Large Cast Iron Dome (22 14 26 13-0001)		
22 14 26 13-0033	EA		15" Diameter Cast Iron Roof Drain With 2" Outlet, Cast Iron Dome	1,132.07	171.04
			For Galvanized Iron Parts, Add	518.00	
			For Deck Clamp Assembly, Add	130.00	
			For Drain Receiver, Add	147.00	
			For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0034	EA		15" Diameter Cast Iron Roof Drain With 3" Outlet, Cast Iron Dome	1,217.58	205.21
			For Galvanized Iron Parts, Add	518.00	
			For Deck Clamp Assembly, Add	130.00	
			For Drain Receiver, Add	147.00	
			For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0035	EA		15" Diameter Cast Iron Roof Drain With 4" Outlet, Cast Iron Dome	1,303.08	256.51
			For Galvanized Iron Parts, Add	518.00	
			For Deck Clamp Assembly, Add	130.00	
			For Drain Receiver, Add	147.00	
			For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0036	EA		15" Diameter Cast Iron Roof Drain With 5" Outlet, Cast Iron Dome	1,693.30	307.81
			For Galvanized Iron Parts, Add	518.00	
			For Deck Clamp Assembly, Add	130.00	
			For Drain Receiver, Add	147.00	
			For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0037	EA		15" Diameter Cast Iron Roof Drain With 6" Outlet, Cast Iron Dome	1,736.05	341.98
			For Galvanized Iron Parts, Add	518.00	
			For Deck Clamp Assembly, Add	130.00	
			For Drain Receiver, Add	147.00	
			For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0038	EA		15" Diameter Cast Iron Roof Drain With 8" Outlet, Cast Iron Dome	2,030.20	359.12
			For Galvanized Iron Parts, Add	518.00	
			For Deck Clamp Assembly, Add	130.00	
			For Drain Receiver, Add	147.00	
			For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0039	EA		15" Diameter Cast Iron Roof Drain With 10" Outlet, Cast Iron Dome	2,709.67	371.94
			For Galvanized Iron Parts, Add	518.00	
			For Deck Clamp Assembly, Add	130.00	
			For Drain Receiver, Add	147.00	
			For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	357.00	
22 14 26 13-0040			Aluminum Roof Drains (22 14 26 13)		
22 14 26 13-0041			Aluminum Dome Roof Drains (22 14 26 13-0040)		



Plumbing			22
Plumbing Piping			22 10
Facility Storm Drainage			22 14

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 13-0042	EA		15" Diameter Roof Drain With 2" Outlet, Aluminum Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,163.50 518.00 130.00 147.00 357.00	171.04
22 14 26 13-0043	EA		15" Diameter Roof Drain With 3" Outlet, Aluminum Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,249.01 518.00 130.00 147.00 357.00	205.21
22 14 26 13-0044	EA		15" Diameter Roof Drain With 4" Outlet, Aluminum Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,334.51 518.00 130.00 147.00 357.00	256.51
22 14 26 13-0045	EA		15" Diameter Roof Drain With 6" Outlet, Aluminum Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	1,767.48 518.00 130.00 147.00 357.00	341.68
22 14 26 13-0046	EA		15" Diameter Roof Drain With 8" Outlet, Aluminum Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	2,061.84 518.00 130.00 147.00 357.00	359.12
22 14 26 13-0047	EA		15" Diameter Roof Drain With 10" Outlet, Aluminum Dome..... For Galvanized Iron Parts, Add For Deck Clamp Assembly, Add For Drain Receiver, Add For 4" (10 cm) Fixed Extension Collar, Cast Iron, Add	2,741.10 518.00 130.00 147.00 357.00	371.94
22 14 26 13-0048			Retrofit Roof Drains (22 14 26 13)		
22 14 26 13-0049			Retrofit Copolymer Roof Drains With Copolymer Strainer Dome (22 14 26 13-0048)		
22 14 26 13-0050	EA		Copolymer Retrofit 3" Roof Drains, With Copolymer Dome.....	818.74	205.21
22 14 26 13-0051	EA		Copolymer Retrofit 4" Roof Drains, With Copolymer Dome.....	919.29	256.51
22 14 26 13-0052	EA		Copolymer Retrofit 5" Roof Drains, With Copolymer Dome.....	1,107.74	307.81
22 14 26 13-0053	EA		Copolymer Retrofit 6" Roof Drains, With Copolymer Dome.....	1,210.67	341.68
22 14 26 13-0054			Retrofit Copolymer Roof Drains With Cast Aluminum Strainer Dome (22 14 26 13-0048)		
22 14 26 13-0055	EA		Copolymer Retrofit Drain, 3", With Cast Aluminum Dome.....	954.16	205.21
22 14 26 13-0056	EA		Copolymer Retrofit Drain, 4", With Cast Aluminum Dome.....	1,048.69	256.51
22 14 26 13-0057	EA		Copolymer Retrofit Drain, 5", With Cast Aluminum Dome.....	1,246.17	307.81
22 14 26 13-0058	EA		Copolymer Retrofit Drain, 6", With Cast Aluminum Dome.....	1,306.98	341.68
22 14 26 13-0059			Retrofit Roof Aluminum Drains With Cast Aluminum Strainer Dome (22 14 26 13-0048)		
22 14 26 13-0060	EA		Aluminum Retrofit 3" Roof Drains, With Cast Aluminum Dome..... For Copolymer Strainer Dome, Deduct	824.76 -24.00	205.21
22 14 26 13-0061	EA		Aluminum Retrofit 4" Roof Drains, With Cast Aluminum Dome..... For Copolymer Strainer Dome, Deduct	925.31 -24.00	256.51
22 14 26 13-0062	EA		Aluminum Retrofit 5" Roof Drains, With Cast Aluminum Dome..... For Copolymer Strainer Dome, Deduct	1,113.76 -24.00	307.81
22 14 26 13-0063	EA		Aluminum Retrofit 6" Roof Drains, With Cast Aluminum Dome..... For Copolymer Strainer Dome, Deduct	1,168.54 -24.00	341.68
22 14 26 13-0064			Bronze Downspout Nozzles (22 14 26 13)		
22 14 26 13-0065	EA		2" Outlet, Bronze Roof Drain Downspout Nozzle.....	499.59	102.60
22 14 26 13-0066	EA		3" Outlet, Bronze Roof Drain Downspout Nozzle.....	499.59	102.60
22 14 26 13-0067	EA		4" Outlet, Bronze Roof Drain Downspout Nozzle.....	499.59	102.60
22 14 26 13-0068	EA		5" Outlet, Bronze Roof Drain Downspout Nozzle.....	786.53	128.26
22 14 26 13-0069	EA		6" Outlet, Bronze Roof Drain Downspout Nozzle.....	786.53	128.26
22 14 26 13-0070	EA		8" Outlet, Bronze Roof Drain Downspout Nozzle.....	1,033.29	128.26
22 14 26 16			Facility Area Drains (22 14 26)		
22 14 26 16-0001			Area Drain (22 14 26 16)		
22 14 26 16-0002	EA		12" x 12" Floor Drain With 2" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer..... For Ductile Iron Grate, Add For Vandal Proof Screws, Add For Primer Tap, Add For Galvanized Cast Iron Parts, Add	3,056.36 123.50 29.50 36.00 152.25	123.54
22 14 26 16-0003	EA		12" x 12" Floor Drain With 3" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer..... For Ductile Iron Grate, Add For Vandal Proof Screws, Add For Primer Tap, Add For Galvanized Cast Iron Parts, Add	3,083.00 123.50 29.50 36.00 152.25	136.87



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 16-0004	EA		12" x 12" Floor Drain With 4" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	3,111.02	150.93
			For Ductile Iron Grate, Add.....	123.50	
			For Vandal Proof Screws, Add.....	29.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	152.25	
22 14 26 16-0005	EA		12" x 12" Floor Drain With 6" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	3,140.23	165.50
			For Ductile Iron Grate, Add.....	123.50	
			For Vandal Proof Screws, Add.....	29.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	152.25	
22 14 26 16-0006	EA		12" x 12" Floor Drain With 2" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	1,864.48	123.54
			For Ductile Iron Grate, Add.....	123.50	
			For Vandal Proof Screws, Add.....	29.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	152.25	
22 14 26 16-0007	EA		12" x 12" Floor Drain With 3" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	1,891.12	136.87
			For Ductile Iron Grate, Add.....	123.50	
			For Vandal Proof Screws, Add.....	29.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	152.25	
22 14 26 16-0008	EA		12" x 12" Floor Drain With 4" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	1,919.14	150.93
			For Ductile Iron Grate, Add.....	123.50	
			For Vandal Proof Screws, Add.....	29.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	152.25	
22 14 26 16-0009	EA		12" x 12" Floor Drain With 6" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	1,948.35	165.50
			For Ductile Iron Grate, Add.....	123.50	
			For Vandal Proof Screws, Add.....	29.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	152.25	
22 14 26 16-0010	EA		12" x 12" Floor Drain With 2" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	2,850.23	123.54
			For Ductile Iron Grate, Add.....	123.50	
			For Vandal Proof Screws, Add.....	29.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	152.25	
22 14 26 16-0011	EA		12" x 12" Floor Drain With 3" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	2,876.87	136.87
			For Ductile Iron Grate, Add.....	123.50	
			For Vandal Proof Screws, Add.....	29.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	152.25	
22 14 26 16-0012	EA		12" x 12" Floor Drain With 4" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	2,904.89	150.93
			For Ductile Iron Grate, Add.....	123.50	
			For Vandal Proof Screws, Add.....	29.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	152.25	
22 14 26 16-0013	EA		12" x 12" Floor Drain With 6" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	2,934.10	165.50
			For Ductile Iron Grate, Add.....	123.50	
			For Vandal Proof Screws, Add.....	29.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	152.25	
22 14 26 16-0014	EA		16" x 16" Floor Drain With 2" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	6,206.52	123.54
			For Ductile Iron Grate, Add.....	123.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	258.50	
22 14 26 16-0015	EA		16" x 16" Floor Drain With 3" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	6,233.16	136.87
			For Ductile Iron Grate, Add.....	123.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	258.50	
22 14 26 16-0016	EA		16" x 16" Floor Drain With 4" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	6,261.18	150.93
			For Ductile Iron Grate, Add.....	123.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	258.50	
22 14 26 16-0017	EA		16" x 16" Floor Drain With 6" Bottom Outlet, Nikaloy Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	6,290.39	165.50
			For Ductile Iron Grate, Add.....	123.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	258.50	
22 14 26 16-0018	EA		16" x 16" Floor Drain With 2" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	3,008.79	123.54
			For Ductile Iron Grate, Add.....	123.50	
			For Primer Tap, Add.....	36.00	
			For Galvanized Cast Iron Parts, Add.....	258.50	



	Plumbing	22	
	Plumbing Piping	22 10	22
	Facility Storm Drainage	22 14	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 16-0019	EA		16" x 16" Floor Drain With 3" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	3,035.43	136.87
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0020	EA		16" x 16" Floor Drain With 4" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	3,063.45	150.93
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0021	EA		16" x 16" Floor Drain With 6" Bottom Outlet, Cast Iron Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	3,092.66	165.50
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0022	EA		16" x 16" Floor Drain With 2" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	5,881.46	123.54
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0023	EA		16" x 16" Floor Drain With 3" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	5,908.10	136.87
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0024	EA		16" x 16" Floor Drain With 4" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	5,936.12	150.93
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0025	EA		16" x 16" Floor Drain With 6" Bottom Outlet, Bronze Top, Medium Duty Loose-Set Cast Iron Grate And Secondary Strainer.....	5,965.33	165.50
			For Ductile Iron Grate, Add	123.50	
			For Primer Tap, Add	36.00	
			For Galvanized Cast Iron Parts, Add	258.50	
22 14 26 16-0026	EA		9" Diameter Floor Drain With 2" Bottom Outlet, Nikaloy Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots.....	1,338.58	123.54
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0027	EA		9" Diameter Floor Drain With 3" Bottom Outlet, Nikaloy Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots.....	1,365.22	136.87
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0028	EA		9" Diameter Floor Drain With 4" Bottom Outlet, Nikaloy Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots.....	1,393.24	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0029	EA		9" Diameter Floor Drain With 2" Bottom Outlet, Cast Iron Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots.....	794.17	123.54
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0030	EA		9" Diameter Floor Drain With 3" Bottom Outlet, Cast Iron Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots.....	820.81	136.87
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0031	EA		9" Diameter Floor Drain With 4" Bottom Outlet, Cast Iron Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots.....	848.83	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0032	EA		9" Diameter Floor Drain With 2" Bottom Outlet, Bronze Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots.....	1,259.29	123.54
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0033	EA		9" Diameter Floor Drain With 3" Bottom Outlet, Bronze Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots.....	1,285.93	136.87
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0034	EA		9" Diameter Floor Drain With 4" Bottom Outlet, Bronze Top, Medium Duty Anti-Tilting Grate And Perimeter Drainage Slots.....	1,313.95	150.93
			For Galvanized Cast Iron Parts, Add	87.50	
			For Vandal Proof Grate, Add	30.50	
22 14 26 16-0035	EA		12-7/8" x 10-7/8" Floor Drain With 2" Side Outlet, Nikaloy Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer.....	4,121.39	123.54
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0036	EA		12-7/8" x 10-7/8" Floor Drain With 3" Side Outlet, Nikaloy Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer.....	4,148.03	136.87
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0037	EA		12-7/8" x 10-7/8" Floor Drain With 4" Side Outlet, Nikaloy Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer.....	4,176.05	150.93
			For Vandal Proof Screws, Add	30.50	
			For Ductile Iron Grate, Add	126.00	
			For Galvanized Cast Iron Parts, Add	307.50	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 16-0038	EA	12-7/8" x 10-7/8" Floor Drain With 2" Side Outlet, Cast Iron Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	2,665.24	123.54
		For Vandal Proof Screws, Add	30.50	
		For Ductile Iron Grate, Add	126.00	
		For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0039	EA	12-7/8" x 10-7/8" Floor Drain With 3" Side Outlet, Cast Iron Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	2,691.88	136.87
		For Vandal Proof Screws, Add	30.50	
		For Ductile Iron Grate, Add	126.00	
		For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0040	EA	12-7/8" x 10-7/8" Floor Drain With 4" Side Outlet, Cast Iron Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	2,719.90	150.93
		For Vandal Proof Screws, Add	30.50	
		For Ductile Iron Grate, Add	126.00	
		For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0041	EA	12-7/8" x 10-7/8" Floor Drain With 2" Side Outlet, Bronze Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	3,867.69	123.54
		For Vandal Proof Screws, Add	30.50	
		For Ductile Iron Grate, Add	126.00	
		For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0042	EA	12-7/8" x 10-7/8" Floor Drain With 3" Side Outlet, Bronze Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	3,894.33	136.87
		For Vandal Proof Screws, Add	30.50	
		For Ductile Iron Grate, Add	126.00	
		For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 16-0043	EA	12-7/8" x 10-7/8" Floor Drain With 4" Side Outlet, Bronze Top, Heavy Duty Hinged Grate And Removable Medium-Deep Sediment Strainer	3,922.35	150.93
		For Vandal Proof Screws, Add	30.50	
		For Ductile Iron Grate, Add	126.00	
		For Galvanized Cast Iron Parts, Add	307.50	
22 14 26 19 Facility Trench Drains (22 14 26)				
22 14 26 19-0001		Trench Drain (22 14 26 19)		
		Note: Each section is 39.4" in length.		
22 14 26 19-0002	EA	6" Wide Trench Drain x 9" Outlet Section With 2" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,096.36	123.54
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	66.00	
		For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0003	EA	6" Wide Trench Drain x 9" Outlet Section With 3" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,123.00	136.87
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	66.00	
		For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0004	EA	6" Wide Trench Drain x 9" Outlet Section With 4" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,151.02	150.93
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	66.00	
		For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0005	EA	6" Wide Trench Drain x 9" Outlet Section With 2" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	657.76	123.54
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	66.00	
		For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0006	EA	6" Wide Trench Drain x 9" Outlet Section With 3" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	684.40	136.87
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	66.00	
		For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0007	EA	6" Wide Trench Drain x 9" Outlet Section With 4" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	712.42	150.93
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	66.00	
		For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0008	EA	6" Wide Trench Drain x 9" Outlet Section With 2" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,036.60	123.54
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	66.00	
		For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0009	EA	6" Wide Trench Drain x 9" Outlet Section With 3" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,063.24	136.87
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	66.00	
		For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0010	EA	6" Wide Trench Drain x 9" Outlet Section With 4" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,091.26	150.93
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	66.00	
		For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0011	EA	6" Wide Trench Drain x 15" Extension Section, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	972.29	61.56
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	66.00	
		For Galvanized Cast Iron Parts, Add	98.25	



Plumbing			22
Plumbing Piping			22 10
Facility Storm Drainage			22 14

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 19-0012	EA		6" Wide Trench Drain x 15" Extension Section, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	533.69	61.56
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0013	EA		6" Wide Trench Drain x 15" Extension Section, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	912.53	61.56
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	66.00	
			For Galvanized Cast Iron Parts, Add	98.25	
22 14 26 19-0014	EA		12" Wide Trench Drain x 15" Outlet Section With 3" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,752.81	123.54
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0015	EA		12" Wide Trench Drain x 15" Outlet Section With 4" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,779.45	136.87
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0016	EA		12" Wide Trench Drain x 15" Outlet Section With 6" Bottom Outlet, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,807.47	150.93
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0017	EA		12" Wide Trench Drain x 15" Outlet Section With 3" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,210.11	123.54
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0018	EA		12" Wide Trench Drain x 15" Outlet Section With 4" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,236.75	136.87
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0019	EA		12" Wide Trench Drain x 15" Outlet Section With 6" Bottom Outlet, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,264.77	150.93
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0020	EA		12" Wide Trench Drain x 15" Outlet Section With 3" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,678.59	123.54
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0021	EA		12" Wide Trench Drain x 15" Outlet Section With 4" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,705.23	136.87
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0022	EA		12" Wide Trench Drain x 15" Outlet Section With 6" Bottom Outlet, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,733.25	150.93
			For Vandal Proof Screws, Add	48.50	
			For Ductile Iron Grate, Add	181.50	
			For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
			For Sediment Bucket, Add	116.00	
			For Galvanized Sediment Bucket, Add	188.50	
			For Galvanized Cast Iron Parts, Add	131.50	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 26 19-0023	EA	12" Wide Trench Drain x 15" Outlet Section With 3" Bottom Outlet, Galvanized Top And Body, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,463.62	123.54
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	181.50	
		For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
		For Sediment Bucket, Add	116.00	
		For Galvanized Sediment Bucket, Add	188.50	
		For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0024	EA	12" Wide Trench Drain x 15" Outlet Section With 4" Bottom Outlet, Galvanized Top And Body, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,490.26	136.87
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	181.50	
		For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
		For Sediment Bucket, Add	116.00	
		For Galvanized Sediment Bucket, Add	188.50	
		For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0025	EA	12" Wide Trench Drain x 15" Outlet Section With 6" Bottom Outlet, Galvanized Top And Body, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,518.28	150.93
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	181.50	
		For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
		For Sediment Bucket, Add	116.00	
		For Galvanized Sediment Bucket, Add	188.50	
		For Galvanized Cast Iron Parts, Add	131.50	
22 14 26 19-0026	EA	12" Wide Trench Drain x 15" Extension Section, Nikaloy Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots.....	1,628.72	61.56
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	181.50	
		For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
22 14 26 19-0027	EA	12" Wide Trench Drain x 15" Extension Section, Cast Iron Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,086.02	61.56
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	181.50	
		For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
22 14 26 19-0028	EA	12" Wide Trench Drain x 15" Extension Section, Bronze Top, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots.....	1,554.50	61.56
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	181.50	
		For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	
22 14 26 19-0029	EA	12" Wide Trench Drain x 15" Extension Section, Galvanized Top And Body, Heavy Duty Body Sections, Heavy Duty Loose Set Grate With Perimeter Drainage Slots	1,339.53	61.56
		For Vandal Proof Screws, Add	48.50	
		For Ductile Iron Grate, Add	181.50	
		For Convex Grate On Cast Iron Or Ductile Price, Add	38.50	

22 14 29 Sump Pumps (22 14)

See CSI section 22 11 16 00-0000 for pipe extensions into well.

22 14 29 13 Wet-Pit-Mounted, Vertical Sump Pumps (22 14 29)

22 14 29 13-0001 Vertical Mounted Sump Pumps (22 14 29 13)

Note: Supplied with 1750 RPM premium efficient motor with drip cover, float switch assembly, steel support mounting plate and 5' column sections.

22 14 29 13-0002	EA	1 HP Vertical Mounted Cast Iron Sump Pump, 1-1/2" Discharge, Single Stage, 25 GPM 40' Head.....	6,268.71	297.72
		For Explosion Proof Motor, Add	295.95	
22 14 29 13-0003	EA	1-1/2 HP Vertical Mounted Cast Iron Sump Pump, 2" Discharge, Single Stage, 75 GPM 40' Head.....	6,611.39	360.34
		For Explosion Proof Motor, Add	329.01	
22 14 29 13-0004	EA	2 HP Vertical Mounted Cast Iron Sump Pump, 2-1/2" Discharge, Single Stage, 100 GPM 40' Head.....	7,546.73	428.11
		For Explosion Proof Motor, Add	425.03	
22 14 29 13-0005	EA	3 HP Vertical Mounted Cast Iron Sump Pump, 3" Discharge, Single Stage, 150 GPM 40' Head.....	8,025.77	526.66
		For Explosion Proof Motor, Add	481.71	
22 14 29 13-0006	EA	5 HP Vertical Mounted Cast Iron Sump Pump, 3" Discharge, Single Stage, 200 GPM 40' Head	8,469.44	570.80
		For Explosion Proof Motor, Add	703.67	
22 14 29 13-0007	EA	10 HP Vertical Mounted Cast Iron Sump Pump, 4" Discharge, Single Stage, 300 GPM 70' Head	10,040.45	684.76
		For Explosion Proof Motor, Add	798.12	
22 14 29 13-0008	EA	15 HP Vertical Mounted Cast Iron Sump Pump, 5" Discharge, Single Stage, 500 GPM 70' Head	11,780.38	709.11
		For Explosion Proof Motor, Add	1,308.16	
22 14 29 13-0009	EA	20 HP Vertical Mounted Cast Iron Sump Pump, 6" Discharge, Single Stage, 800 GPM 70' Head	14,334.85	904.41
		For Explosion Proof Motor, Add	1,736.34	
22 14 29 13-0010	EA	30 HP Vertical Mounted Cast Iron Sump Pump, 6" Discharge, Single Stage, 1,000 GPM 70' Head	15,457.64	1,054.76
		For Explosion Proof Motor, Add	2,251.11	
22 14 29 13-0011	EA	50 HP Vertical Mounted Cast Iron Sump Pump, 8" Discharge, Single Stage, 1,600 GPM 70' Head	20,793.87	1,266.17
		For Explosion Proof Motor, Add	2,932.73	
22 14 29 13-0012	EA	60 HP Vertical Mounted Cast Iron Sump Pump, 8" Discharge, Single Stage, 2,000 GPM 70' Head	28,907.32	1,406.35
		For Explosion Proof Motor, Add	4,648.61	

22 14 29 13-0013 Extra Column Assemblies (22 14 29 13)

22 14 29 13-0014	EA	1-1/2" Diameter x 5' Long Extra Column Assembly	1,001.74	
22 14 29 13-0015	EA	2" Diameter x 5' Long Extra Column Assembly	1,096.13	
22 14 29 13-0016	EA	2-1/2" Diameter x 5' Long Extra Column Assembly	1,199.43	
22 14 29 13-0017	EA	3" Diameter x 5' Long Extra Column Assembly	1,440.15	
22 14 29 13-0018	EA	4" Diameter x 5' Long Extra Column Assembly	1,609.70	
22 14 29 13-0019	EA	5" Diameter x 5' Long Extra Column Assembly	1,639.01	
22 14 29 13-0020	EA	6" Diameter x 5' Long Extra Column Assembly	1,839.96	



		Plumbing	22	22
		Plumbing Piping	22 10	
		Facility Storm Drainage	22 14	

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 29 13-0021	EA	8" Diameter x 5' Long Extra Column Assembly	2,013.34	
22 14 29 13-0022		Support Plate (22 14 29 13)		
22 14 29 13-0023	EA	24" Steel Support Plate, Round Or Square.....	961.25	41.04
22 14 29 13-0024	EA	30" Steel Support Plate, Round Or Square.....	1,063.93	46.17
22 14 29 13-0025	EA	36" Steel Support Plate, Round Or Square.....	1,478.03	61.56
22 14 29 13-0026	EA	40" Steel Support Plate, Round Or Square.....	2,156.83	71.83
22 14 29 13-0027	EA	42" Steel Support Plate, Round Or Square.....	2,314.15	74.39
22 14 29 13-0028	EA	48" Steel Support Plate, Round Or Square.....	2,475.95	76.96
22 14 29 13-0029	EA	54" Steel Support Plate, Round Or Square.....	3,158.01	92.34
22 14 29 13-0030	EA	60" Steel Support Plate, Round Or Square.....	4,293.48	102.60
22 14 29 13-0031	EA	72" Steel Support Plate, Round Or Square.....	5,737.22	128.26
22 14 29 13-0032	EA	84" Steel Support Plate, Round Or Square.....	6,936.39	141.08
22 14 29 16		Submersible Sump Pumps (22 14 29)		
22 14 29 16-0001		Submersible Sump/Effluent Pumps (22 14 29 16)		
22 14 29 16-0002		Wet Pit Submersible Pumps, (KSB) Series KRT K (22 14 29 16-0001) Note: Includes 33' (10m) of cord with pump.		
22 14 29 16-0003		4 Pole / 1,750 RPM (22 14 29 16-0002)		
22 14 29 16-0004	EA	To 10 HP, 600 GPM At 32' Head, Wet Pit Submersible Pump	8,154.50	358.79
22 14 29 16-0005	EA	11-20 HP, 900 GPM At 60' Head, Wet Pit Submersible Pump	9,613.35	597.98
22 14 29 16-0006	EA	21-36 HP, 1,000 GPM At 105' Head, Wet Pit Submersible Pump	16,443.24	837.16
22 14 29 16-0007	EA	51-83 HP, 2,500 GPM At 115' Head, Wet Pit Submersible Pump	39,461.74	1,076.35
22 14 29 16-0008	EA	83-110 HP, 2,600 GPM At 140' Head, Wet Pit Submersible Pump	42,802.38	1,315.55
22 14 29 16-0009	EA	83-110 HP, 3,000 GPM At 100' Head, Wet Pit Submersible Pump	46,441.29	1,315.55
22 14 29 16-0010	EA	83-110 HP, 3,500 GPM At 80' Head, Wet Pit Submersible Pump	47,320.44	1,315.55
22 14 29 16-0011	EA	110-160 HP, 3,000 GPM At 180' Head, Wet Pit Submersible Pump	55,084.16	1,554.74
22 14 29 16-0012	EA	110-160 HP, 3,500 GPM At 140' Head, Wet Pit Submersible Pump	56,643.20	1,554.74
22 14 29 16-0013	EA	110-160 HP, 4,500 GPM At 110' Head, Wet Pit Submersible Pump	58,597.24	1,554.74
22 14 29 16-0014	EA	160-210 HP, 3,800 GPM At 150' Head, Wet Pit Submersible Pump	62,326.89	1,793.93
22 14 29 16-0015	EA	160-210 HP, 5,000 GPM At 130' Head, Wet Pit Submersible Pump	66,486.66	1,793.93
22 14 29 16-0016		6 Pole / 1160 RPM (22 14 29 16-0002)		
22 14 29 16-0017	EA	To 10 HP, 1,100 GPM At 26' Head, Wet Pit Submersible Pump	11,321.51	358.79
22 14 29 16-0018	EA	To 10 HP, 1,800 GPM At 16' Head, Wet Pit Submersible Pump	12,258.33	358.79
22 14 29 16-0019	EA	11-24 HP, 1,400 GPM At 47' Head, Wet Pit Submersible Pump	15,964.86	597.98
22 14 29 16-0020	EA	11-24 HP, 2,400 GPM At 30' Head, Wet Pit Submersible Pump	17,392.81	597.98
22 14 29 16-0021	EA	21-50 HP, 2,100 GPM At 75' Head, Wet Pit Submersible Pump	25,147.28	837.16
22 14 29 16-0022	EA	21-50 HP, 2,400 GPM At 60' Head, Wet Pit Submersible Pump	26,662.63	837.16
22 14 29 16-0023	EA	21-50 HP, 3,200 GPM At 50' Head, Wet Pit Submersible Pump	32,222.38	837.16
22 14 29 16-0024	EA	21-50 HP, 5,000 GPM At 29' Head, Wet Pit Submersible Pump	38,469.02	837.16
22 14 29 16-0025	EA	51-80 HP, 2,800 GPM At 80' Head, Wet Pit Submersible Pump	39,201.32	1,076.35
22 14 29 16-0026	EA	51-80 HP, 4,000 GPM At 60' Head, Wet Pit Submersible Pump	44,810.01	1,076.35
22 14 29 16-0027	EA	51-80 HP, 5,500 GPM At 43' Head, Wet Pit Submersible Pump	45,166.56	1,076.35
22 14 29 16-0028	EA	76-112 HP, 2,200 GPM At 105' Head, Wet Pit Submersible Pump	53,040.99	1,315.55
22 14 29 16-0029	EA	76-112 HP, 4,100 GPM At 70' Head, Wet Pit Submersible Pump	57,060.93	1,315.55
22 14 29 16-0030	EA	76-112 HP, 6,500 GPM At 50' Head, Wet Pit Submersible Pump	65,792.94	1,315.55
22 14 29 16-0031	EA	112-143 HP, 2,500 GPM At 120' Head, Wet Pit Submersible Pump	71,730.21	1,554.74
22 14 29 16-0032	EA	112-143 HP, 6,500 GPM At 65' Head, Wet Pit Submersible Pump	72,252.80	1,554.74
22 14 29 16-0033	EA	155-200 HP, 3,000 GPM At 150' Head, Wet Pit Submersible Pump	88,945.89	1,793.93
22 14 29 16-0034	EA	155-200 HP, 6,000 GPM At 110' Head, Wet Pit Submersible Pump	98,574.52	1,793.93
22 14 29 16-0035	EA	201-280 HP, 6,500 GPM At 130' Head, Wet Pit Submersible Pump	108,159.38	2,033.11
22 14 29 16-0036	EA	281-450 HP, 12,000 GPM At 110' Head, Wet Pit Submersible Pump	154,883.95	2,272.31
22 14 29 16-0037		8 Pole / 875 RPM (22 14 29 16-0002)		
22 14 29 16-0038	EA	To 20 HP, 2,300 GPM At 25' Head, Wet Pit Submersible Pump	10,897.99	597.98
22 14 29 16-0039	EA	21-30 HP, 2,500 GPM At 31' Head, Wet Pit Submersible Pump	12,507.19	837.16
22 14 29 16-0040	EA	31-50 HP, 4,700 GPM At 29' Head, Wet Pit Submersible Pump	17,923.60	1,076.35
22 14 29 16-0041	EA	51-117 HP, 6,500 GPM At 45' Head, Wet Pit Submersible Pump	34,315.06	1,315.55
22 14 29 16-0042	EA	118-175 HP, 9,000 GPM At 60' Head, Wet Pit Submersible Pump	43,393.12	1,554.74
22 14 29 16-0043	EA	176-210 HP, 1,4000 GPM At 50' Head, Wet Pit Submersible Pump	59,161.63	1,793.93
22 14 29 16-0044	EA	211-250 HP, 14,000 GPM At 60' Head, Wet Pit Submersible Pump	63,155.28	2,033.11
22 14 29 16-0045		10 Pole / 700 RPM (22 14 29 16-0002)		
22 14 29 16-0046	EA	To 55 HP, 6,500 GPM At 25' Head Wet Pit Submersible Pump	29,754.48	837.16
22 14 29 16-0047	EA	56-76 HP, 7,000 GPM At 36' Head Wet Pit Submersible Pump	33,837.32	1,076.35
22 14 29 16-0048	EA	76-117 HP, 10,000 GPM At 30' Head Wet Pit Submersible Pump	50,854.49	1,315.55
22 14 29 16-0049	EA	118-150 HP, 11,500 GPM At 40' Head Wet Pit Submersible Pump	59,929.06	1,554.74
22 14 29 16-0050		Dry Pit Submersible Pumps, (KSB) Series KRT K-D (22 14 29 16-0001) Note: Includes 33' (10m) of cord with pump.		
22 14 29 16-0051		4 Pole / 1,750 RPM (22 14 29 16-0050)		



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 14 29 16-0052	EA	To 35 HP, 800 GPM At 90' Head Dry Pit Submersible Pump	25,968.75	837.16
22 14 29 16-0053	EA	To 35 HP, 1,700 GPM At 50' Head Dry Pit Submersible Pump	28,677.84	837.16
22 14 29 16-0054	EA	36-50 HP, 1,300 GPM At 80' Head Dry Pit Submersible Pump	29,682.14	966.76
22 14 29 16-0055	EA	36-50 HP, 2,000 GPM At 66' Head Dry Pit Submersible Pump	34,362.74	956.76
22 14 29 16-0056	EA	51-75 HP, 1,600 GPM At 110' Head Dry Pit Submersible Pump	51,265.27	1,076.35
22 14 29 16-0057	EA	51-75 HP, 2,400 GPM At 80' Head Dry Pit Submersible Pump	52,216.07	1,076.35
22 14 29 16-0058	EA	76-110 HP, 1,900 GPM At 125' Head Dry Pit Submersible Pump	56,381.03	1,315.55
22 14 29 16-0059	EA	76-110 HP, 2,600 GPM At 110' Head Dry Pit Submersible Pump	56,604.75	1,315.55
22 14 29 16-0060	EA	110-150 HP, 3,000 GPM At 160' Head Dry Pit Submersible Pump	80,184.31	1,554.74
22 14 29 16-0061	EA	110-150 HP, 4,000 GPM At 100' Head Dry Pit Submersible Pump	92,868.10	1,554.74
22 14 29 16-0062 6 Pole / 1160 RPM (22 14 29 16-0050)				
22 14 29 16-0063	EA	To 35 HP, 1,300 GPM At 55' Head Dry Pit Submersible Pump	32,428.62	837.16
22 14 29 16-0064	EA	To 35 HP, 1,800 GPM At 45' Head Dry Pit Submersible Pump	35,550.19	837.16
22 14 29 16-0065	EA	To 35 HP, 2,800 GPM At 35' Head Dry Pit Submersible Pump	43,904.67	837.16
22 14 29 16-0066	EA	36-50 HP, 2,000 GPM At 55' Head Dry Pit Submersible Pump	47,829.54	956.76
22 14 29 16-0067	EA	36-50 HP, 3,200 GPM At 50' Head Dry Pit Submersible Pump	54,866.19	956.76
22 14 29 16-0068	EA	51-75 HP, 2,500 GPM At 88' Head Dry Pit Submersible Pump	60,350.33	1,076.35
22 14 29 16-0069	EA	51-75 HP, 5,500 GPM At 45' Head Dry Pit Submersible Pump	73,745.47	1,076.35
22 14 29 16-0070	EA	76-112 HP, 3,100 GPM At 100' Head Dry Pit Submersible Pump	83,180.05	1,315.55
22 14 29 16-0071	EA	76-112 HP, 8,400 GPM At 55' Head Dry Pit Submersible Pump	91,581.73	1,315.55
22 14 29 16-0072	EA	112-154 HP, 3,300 GPM At 130' Head Dry Pit Submersible Pump	112,029.23	1,554.74
22 14 29 16-0073	EA	112-154 HP, 5,000 GPM At 80' Head Dry Pit Submersible Pump	135,477.72	1,554.74
22 14 29 16-0074	EA	154-200 HP, 3,700 GPM At 140' Head Dry Pit Submersible Pump	139,974.66	1,793.93
22 14 29 16-0075	EA	154-200 HP, 5,700 GPM At 100' Head Dry Pit Submersible Pump	143,994.60	1,793.93
22 14 29 16-0076	EA	201-300 HP, 6,500 GPM At 130' Head Dry Pit Submersible Pump	211,851.11	2,033.11
22 14 29 16-0077 8 Pole / 875 RPM (22 14 29 16-0050)				
22 14 29 16-0078	EA	To 35 HP, 2,000 GPM At 45' Head, Dry Pit Submersible Pump	46,444.23	837.16
22 14 29 16-0079	EA	To 35 HP, 2,400 GPM At 32' Head, Dry Pit Submersible Pump	58,526.77	837.16
22 14 29 16-0080	EA	36-50 HP, 4,600 GPM At 30' Head, Dry Pit Submersible Pump	65,604.67	956.76
22 14 29 16-0081	EA	51-75 HP, 4,250 GPM At 51' Head, Dry Pit Submersible Pump	81,549.40	1,076.35
22 14 29 16-0082	EA	76-110 HP, 4,600 GPM At 70' Head, Dry Pit Submersible Pump	103,110.21	1,315.55
22 14 29 16-0083	EA	76-110 HP, 8,500 GPM At 40' Head, Dry Pit Submersible Pump	109,989.56	1,315.55
22 14 29 16-0084	EA	110-154 HP, 5,000 GPM At 75' Head, Dry Pit Submersible Pump	121,275.09	1,554.74
22 14 29 16-0085	EA	110-154 HP, 9,000 GPM At 55' Head, Dry Pit Submersible Pump	135,538.89	1,554.74
22 14 29 16-0086	EA	110-154 HP, 12,000 GPM At 32' Head, Dry Pit Submersible Pump	176,411.19	1,554.74
22 14 29 16-0087	EA	154-214 HP, 13,000 GPM At 50' Head, Dry Pit Submersible Pump	231,510.44	1,793.93
22 14 29 16-0088	EA	215-244 HP, 14,000 GPM At 55' Head, Dry Pit Submersible Pump	251,195.84	2,033.11
22 14 29 16-0089 10 Pole / 700 RPM (22 14 29 16-0050)				
22 14 29 16-0090	EA	To 55 HP, 3,600 GPM At 40' Head Dry Pit Submersible Pump	98,881.03	956.76
22 14 29 16-0091	EA	To 55 HP, 6,250 GPM At 28' Head Dry Pit Submersible Pump	105,533.16	956.76
22 14 29 16-0092	EA	56-75 HP, 4,000 GPM At 47' Head Dry Pit Submersible Pump	110,387.23	1,076.35
22 14 29 16-0093	EA	55-82 HP, 9,000 GPM At 37' Head Dry Pit Submersible Pump	115,002.29	1,076.35
22 14 29 16-0094	EA	76-110 HP, 10,500 GPM At 30' Head Dry Pit Submersible Pump	172,819.47	1,315.55
22 14 29 16-0095	EA	110-154 HP, 11,500 GPM At 40' Head Dry Pit Submersible Pump	190,197.84	1,554.74
22 14 29 16-0096	EA	154-214 HP, 13,000 GPM At 55' Head Dry Pit Submersible Pump	244,921.31	1,793.93
22 14 29 16-0097 Submersible Sump Pump, Ebara (22 14 29 16-0001)				
22 14 29 16-0098 Submersible Sump Pump, 2", 3", 4" Ebara Model DSU (22 14 29 16-0097)				
22 14 29 16-0099	EA	3 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSU62.2	3,570.11	246.25
		For 20' Stainless Steel Chain, Add	284.75	
		For Guide Rail System, Add	274.55	
22 14 29 16-0100	EA	5 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSU63.7	4,059.13	328.34
		For 20' Stainless Steel Chain, Add	284.75	
		For Guide Rail System, Add	274.55	
22 14 29 16-0101	EA	3 HP Submersible Sump Pump, 3" Discharge, 3 Phase, Ebara 80DSU62.2	3,771.28	246.25
		For 20' Stainless Steel Chain, Add	284.75	
		For Guide Rail System, Add	381.65	
22 14 29 16-0102	EA	5 HP Submersible Sump Pump, 3" Discharge, 3 Phase, Ebara 80DSU63.7	4,150.47	328.34
		For 20' Stainless Steel Chain, Add	284.75	
		For Guide Rail System, Add	381.65	
22 14 29 16-0103	EA	7.5 HP Submersible Sump Pump, 4" Discharge, 3 Phase, Ebara 100DSU65.5	5,562.69	410.42
		For 20' Stainless Steel Chain, Add	423.30	
		For Guide Rail System, Add	754.80	
22 14 29 16-0104	EA	10 HP Submersible Sump Pump, 4" Discharge, 3 Phase, Ebara 100DSU67.5	6,247.46	492.51
		For 20' Stainless Steel Chain, Add	423.30	
		For Guide Rail System, Add	754.80	
22 14 29 16-0105 Submersible Sump Pump, 2", 3", Ebara Model DSHU, Rated 176 Degrees F (22 14 29 16-0097)				
22 14 29 16-0106	EA	1/2 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSHU6.4	1,593.83	82.08
		For 20' Stainless Steel Chain, Add	284.75	
		For Guide Rail System, Add	220.15	



Plumbing			22
Plumbing Piping			22 10
Facility Storm Drainage			22 14

MINOR				TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION				UNIT COST		UNIT COST	
22 14 29 16-0107	EA	1 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSHU6.75	1,769.28		123.13		
		For 20' Stainless Steel Chain, Add	284.75				
		For Guide Rail System, Add	220.15				
22 14 29 16-0108	EA	2 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSHU61.5	2,618.24		205.21		
		For 20' Stainless Steel Chain, Add	284.75				
		For Guide Rail System, Add	220.15				
22 14 29 16-0109	EA	3 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSHU62.2	4,312.81		246.25		
		For 20' Stainless Steel Chain, Add	284.75				
		For Guide Rail System, Add	274.55				
22 14 29 16-0110	EA	5 HP Submersible Sump Pump, 2" Discharge, 3 Phase, Ebara 50DSHU63.7	4,598.48		328.34		
		For 20' Stainless Steel Chain, Add	284.75				
		For Guide Rail System, Add	274.55				
22 14 29 16-0111	EA	3 HP Submersible Sump Pump, 3" Discharge, 3 Phase, Ebara 80DSHU62.2	4,637.94		246.25		
		For 20' Stainless Steel Chain, Add	284.75				
		For Guide Rail System, Add	381.65				
22 14 29 16-0112	EA	5 HP Submersible Sump Pump, 3" Discharge, 3 Phase, Ebara 80DSHU63.5	5,024.75		328.34		
		For 20' Stainless Steel Chain, Add	284.75				
		For Guide Rail System, Add	381.65				
22 14 29 16-0113	Submersible Sump Pump With Vortex Impeller (22 14 29 16)						
22 14 29 16-0114	Submersible Sump Pump With Cast Iron Vortex Impeller (22 14 29 16-0113)						
22 14 29 16-0115	EA	1/3 HP Manual Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded Discharge, Epoxy-Coated Cast Steel Housing And Impeller	509.33		66.86		
22 14 29 16-0116	EA	1/3 HP Automatic Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded Discharge, Epoxy-Coated Cast Steel Housing And Impeller	567.38		66.86		
22 14 29 16-0117	EA	1/2 HP Manual Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded Discharge, Epoxy-Coated Cast Steel Housing And Impeller	906.43		70.75		
22 14 29 16-0118	EA	1/2 HP Automatic Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded Discharge, Epoxy-Coated Cast Steel Housing And Impeller	998.29		70.75		
22 14 29 16-0119	Submersible Sump Pump With Bronze Vortex Impeller (22 14 29 16-0113)						
Note: Includes 20' of cord with pump.							
22 14 29 16-0120	EA	1/2 HP Manual Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	1,546.93		70.75		
22 14 29 16-0121	EA	1/2 HP Automatic Submersible Sump Pump, 115 Volt Or 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	1,685.36		70.75		
22 14 29 16-0122	EA	1 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	1,768.89		77.99		
22 14 29 16-0123	EA	1 HP Automatic Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	1,916.89		77.99		
22 14 29 16-0124	EA	1-1/2 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	1,969.45		89.13		
22 14 29 16-0125	EA	1-1/2 HP Automatic Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	2,114.90		89.13		
22 14 29 16-0126	EA	2 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	2,112.26		105.85		
22 14 29 16-0127	EA	2 HP Automatic Submersible Sump Pump, 230 Volt, 1 Phase, 1-1/2" Threaded or 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Bronze Impeller	2,238.58		105.85		
22 14 29 16-0128	Submersible Sump Pump With Semi-Open Impeller (22 14 29 16)						
Note: Includes 20' of cord with pump.							
22 14 29 16-0129	EA	1/3 HP Manual Submersible Sump Pump, 115 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,230.34		66.86		
22 14 29 16-0130	EA	1/3 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,271.04		66.86		
22 14 29 16-0131	EA	1/2 HP Manual Submersible Sump Pump, 115 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,591.34		70.75		
22 14 29 16-0132	EA	1/2 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,619.94		70.75		
22 14 29 16-0133	EA	3/4 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,946.83		74.65		
22 14 29 16-0134	EA	3/4 HP Manual Submersible Sump Pump, 230 Volt, 3 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	1,946.83		74.65		
22 14 29 16-0135	EA	1 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,059.20		77.99		
22 14 29 16-0136	EA	1 HP Manual Submersible Sump Pump, 230 Volt, 3 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,059.20		77.99		
22 14 29 16-0137	EA	1-1/2 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,350.06		89.13		
22 14 29 16-0138	EA	1-1/2 HP Manual Submersible Sump Pump, 230 Volt, 3 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,350.06		89.13		
22 14 29 16-0139	EA	2 HP Manual Submersible Sump Pump, 230 Volt, 1 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,733.49		105.85		
22 14 29 16-0140	EA	2 HP Manual Submersible Sump Pump, 230 Volt, 3 Phase, 2" Threaded Discharge, Epoxy-Coated Cast Iron Housing And Semi-Open Impeller	2,683.98		105.85		

22 14 29 19 Sump-Pump Basins and Pits (22 14 29)
See CSI section 22 13 29 33-0000 for basins and pits.

22 Plumbing**22 10 Plumbing Piping****22 15 General Service Compressed-Air Systems**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 15 General Service Compressed-Air Systems (22 10)**22 15 13 General Service Compressed-Air Piping (22 15)**

See CSI section 22 11 16 00-0013 for threaded galvanized steel pipe, 23 21 13 23-0001 for threaded black steel pipe.

22 15 13 00-0001 Quick Disconnect, Air-Service (22 15 13)**22 15 13 00-0002 Combination Steel And Brass (22 15 13 00-0001)**

22 15 13 00-0003	EA	1/2" Combination Steel And Brass Disconnect Valve, Single Seated With Arm Ball And Bracket	54.05	15.60
22 15 13 00-0004	EA	3/4" Combination Steel And Brass Disconnect Valve, Single Seated With Arm Ball And Bracket	60.34	18.94

22 15 13 00-0005 Refrigerated Air Dryers With Ambient Air Filters (22 15 13)

Note: 120 Voltage, 1 Phase

22 15 13 00-0006	EA	3 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	794.65	88.88
22 15 13 00-0007	EA	5 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	911.38	91.36
22 15 13 00-0008	EA	7.5 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	1,077.22	93.83
22 15 13 00-0009	EA	10 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	1,214.28	98.76
22 15 13 00-0010	EA	15 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	1,586.30	111.11
22 15 13 00-0011	EA	20 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	1,793.49	126.42
22 15 13 00-0012	EA	25 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	2,011.51	143.21
22 15 13 00-0013	EA	30 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	2,366.34	160.49
22 15 13 00-0014	EA	40 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	2,742.64	187.65
22 15 13 00-0015	EA	50 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	3,093.50	200.49
22 15 13 00-0016	EA	60 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	3,638.75	222.21
22 15 13 00-0017	EA	75 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	4,188.04	246.90
		For 230 Voltage, Add	1,108.27	
22 15 13 00-0018	EA	85 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	4,525.50	271.60
		For 230 Voltage, Add	1,194.69	
22 15 13 00-0019	EA	100 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	4,871.56	301.23
		For 230 Voltage, Add	1,281.12	
22 15 13 00-0020	EA	125 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	5,268.21	320.98
		For 230 Voltage, Add	1,387.88	
22 15 13 00-0021	EA	175 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	5,572.51	333.33
		For 230 Voltage, Add	1,471.76	
22 15 13 00-0022	EA	200 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	9,715.07	345.67
		For 230 Voltage, Add	2,707.12	
22 15 13 00-0023	EA	250 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	10,443.02	358.02
		For 230 Voltage, Add	2,918.10	
22 15 13 00-0024	EA	300 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	11,150.65	370.36
		For 230 Voltage, Add	3,122.98	
22 15 13 00-0025	EA	400 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	13,258.97	395.05
		For 230 Voltage, Add	3,740.66	
22 15 13 00-0026	EA	500 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	15,027.39	493.81
		For 230 Voltage, Add	4,211.93	
22 15 13 00-0027	EA	600 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	21,401.73	592.57
		For 230 Voltage, Add	6,064.97	
22 15 13 00-0028	EA	800 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	29,089.39	691.33
		For 230 Voltage, Add	8,312.01	
22 15 13 00-0029	EA	1,000 SCFM Capacity Refrigerated Air Dryers With Ambient Air Filters	32,565.96	790.10
		For 230 Voltage, Add	9,295.73	

22 15 13 00-0030 Oil And Water Separator For Air Compressor (22 15 13)

22 15 13 00-0031	EA	0-60 SCFM Oil/Water Separator	722.08	35.67
22 15 13 00-0032	EA	85 SCFM Oil/Water Separator	968.18	41.79
22 15 13 00-0033	EA	190 SCFM Oil/Water Separator	1,131.84	47.38
22 15 13 00-0034	EA	245 SCFM Oil/Water Separator	1,421.40	55.73
22 15 13 00-0035	EA	320 SCFM Oil/Water Separator	1,689.40	66.88
22 15 13 00-0036	EA	700 SCFM Oil/Water Separator	3,405.21	139.33

22 15 13 00-0037 Heavy Duty Industrial Pressure Regulator (22 15 13)

22 15 13 00-0038	EA	3/8" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output	121.96	29.62
22 15 13 00-0039	EA	1/2" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output	170.52	39.50
22 15 13 00-0040	EA	3/4" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output	293.30	49.38
22 15 13 00-0041	EA	1" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output	366.40	74.07
22 15 13 00-0042	EA	1-1/4" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output	514.02	86.42
22 15 13 00-0043	EA	1-1/2" Pressure Regulator, Max 300 PSI Input, 2-125 PSI Output	538.71	98.76

22 15 13 00-0044 Combination Air System; Filter Regulator Lubricator (22 15 13)

22 15 13 00-0045	EA	3/8" Filter Regulator Lubricator, Max 150 PSI Input, 150 CFM, 40 Micron Filter	465.85	88.88
22 15 13 00-0046	EA	1/2" Filter Regulator Lubricator, Max 150 PSI Input, 150 CFM, 40 Micron Filter	575.93	118.52

22 15 13 00-0047 Heatless Desiccant Air Dryers (22 15 13)

22 15 13 00-0048	EA	5 SCFM Heatless Desiccant Air Dryer	2,792.04	88.88
22 15 13 00-0049	EA	10 SCFM Heatless Desiccant Air Dryer	3,357.95	98.76
22 15 13 00-0050	EA	15 SCFM Heatless Desiccant Air Dryer	3,389.57	108.64
22 15 13 00-0051	EA	20 SCFM Heatless Desiccant Air Dryer	3,871.71	123.45



Plumbing			22
Plumbing Piping			22 10
General Service Compressed-Air Systems			22 15

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 15 13 00-0052 EA 30 SCFM Heatless Desiccant Air Dryer	5,336.03	148.14
22 15 13 00-0053 EA 50 SCFM Heatless Desiccant Air Dryer	5,263.64	197.52
22 15 13 00-0054 EA 85 SCFM Heatless Desiccant Air Dryer	7,072.25	246.90
22 15 13 00-0055 EA 100 SCFM Heatless Desiccant Air Dryer	7,501.12	296.29
22 15 13 00-0056 EA 125 SCFM Heatless Desiccant Air Dryer	8,586.81	345.67
22 15 13 00-0057 EA 175 SCFM Heatless Desiccant Air Dryer	9,860.45	395.05
22 15 13 00-0058 EA 200 SCFM Heatless Desiccant Air Dryer	10,593.84	444.43
22 15 13 00-0059 EA 300 SCFM Heatless Desiccant Air Dryer	12,959.98	493.61
22 15 13 00-0060 EA 400 SCFM Heatless Desiccant Air Dryer	14,391.17	592.57
22 15 13 00-0061 EA 500 SCFM Heatless Desiccant Air Dryer	16,632.39	691.33
22 15 13 00-0062 EA 600 SCFM Heatless Desiccant Air Dryer	19,192.18	790.10
22 15 13 00-0063 Air Cooled Aftercoolers (22 15 13)		
22 15 13 00-0064 EA 20 SCFM Air-Cooled Aftercooler	699.64	61.73
22 15 13 00-0065 EA 35 SCFM Air-Cooled Aftercooler	946.30	74.07
22 15 13 00-0066 EA 43 SCFM Air-Cooled Aftercooler	1,038.77	86.42
22 15 13 00-0067 EA 70 SCFM Air-Cooled Aftercooler	1,270.20	98.76
22 15 13 00-0068 EA 125 SCFM Air-Cooled Aftercooler	1,772.77	111.11
22 15 13 00-0069 EA 185 SCFM Air-Cooled Aftercooler	1,990.64	123.45
22 15 13 00-0070 EA 260 SCFM Air-Cooled Aftercooler	3,865.80	148.14
22 15 13 00-0071 EA 365 SCFM Air-Cooled Aftercooler	4,039.22	172.83
22 15 13 00-0072 EA 560 SCFM Air-Cooled Aftercooler	4,211.29	197.52
22 15 13 00-0073 EA 650 SCFM Air-Cooled Aftercooler	4,939.86	222.21
22 15 13 00-0074 EA 750 SCFM Air-Cooled Aftercooler	5,400.02	246.90
22 15 13 00-0075 EA 900 SCFM Air-Cooled Aftercooler	6,193.66	271.60
22 15 13 00-0076 EA 1,100 SCFM Air-Cooled Aftercooler	7,957.98	296.29
22 15 13 00-0077 EA 1,460 SCFM Air-Cooled Aftercooler	9,104.78	320.98
22 15 13 00-0078 EA 1,800 SCFM Air-Cooled Aftercooler	9,399.88	345.67
22 15 13 00-0079 EA 2,500 SCFM Air-Cooled Aftercooler	10,079.66	370.36
22 15 13 00-0080 Compressed Air Coalescing Filters (22 15 13)		
22 15 13 00-0081 1.0 Micron Filter Rated Compressed Air Coalescing Filters (22 15 13 00-0080)		
22 15 13 00-0082 EA 10 SCFM, 3/8", Coalescing Filter, 1.0 Micron Filter Rating	241.92	36.22
22 15 13 00-0083 EA 20 SCFM, 3/8", Coalescing Filter, 1.0 Micron Filter Rating	289.37	36.22
22 15 13 00-0084 EA 50 SCFM, 1/2", Coalescing Filter, 1.0 Micron Filter Rating	315.76	41.79
22 15 13 00-0085 EA 75 SCFM, 3/4", Coalescing Filter, 1.0 Micron Filter Rating	363.61	47.93
22 15 13 00-0086 EA 100 SCFM, 3/4", Coalescing Filter, 1.0 Micron Filter Rating	424.47	52.95
22 15 13 00-0087 EA 140 SCFM, 1", Coalescing Filter, 1.0 Micron Filter Rating	480.66	64.09
22 15 13 00-0088 EA 175 SCFM, 1-1/4" Coalescing Filter, 1.0 Micron Filter Rating	520.77	69.66
22 15 13 00-0089 EA 250 SCFM, 1-1/2" Coalescing Filter, 1.0 Micron Filter Rating	628.13	83.60
22 15 13 00-0090 EA 280 SCFM, 2" Coalescing Filter, 1.0 Micron Filter Rating	805.87	111.47
22 15 13 00-0091 EA 350 SCFM, 2" Coalescing Filter, 1.0 Micron Filter Rating	921.86	125.39
22 15 13 00-0092 0.01 Micron Filter Rated Compressed Air Coalescing Filters (22 15 13 00-0080)		
22 15 13 00-0093 EA 16 SCFM, 3/8" Coalescing Filter, 0.01 Micron Filter Rating	296.15	36.22
22 15 13 00-0094 EA 30 SCFM, 1/2" Coalescing Filter, 0.01 Micron Filter Rating	320.82	41.79
22 15 13 00-0095 EA 60 SCFM, 3/4" Coalescing Filter, 0.01 Micron Filter Rating	368.35	47.93
22 15 13 00-0096 EA 100 SCFM, 1" Coalescing Filter, 0.01 Micron Filter Rating	433.97	47.38
22 15 13 00-0097 EA 140 SCFM, 1-1/4" Coalescing Filter, 0.01 Micron Filter Rating	491.50	64.09
22 15 13 00-0098 EA 180 SCFM, 1-1/4" Coalescing Filter, 0.01 Micron Filter Rating	557.90	69.66
22 15 13 00-0099 EA 250 SCFM, 1-1/2" Coalescing Filter, 0.01 Micron Filter Rating	640.33	83.60
22 15 13 00-0100 EA 280 SCFM, 2" Coalescing Filter, 0.01 Micron Filter Rating	826.21	111.47
22 15 13 00-0101 EA 350 SCFM, 2" Coalescing Filter, 0.01 Micron Filter Rating	948.98	125.39
22 15 13 00-0102 Compressed Air Storage Tanks (22 15 13)		
22 15 13 00-0103 Horizontal Compressed Air Storage Tanks (22 15 13 00-0102)		
22 15 13 00-0104 EA 12 Gallon Horizontal Compressed Air Storage Tank, ASME	395.26	79.01
22 15 13 00-0105 EA 15 Gallon Horizontal Compressed Air Storage Tank, ASME	730.03	86.42
22 15 13 00-0106 EA 20 Gallon Horizontal Compressed Air Storage Tank, ASME	773.74	90.86
22 15 13 00-0107 EA 30 Gallon Horizontal Compressed Air Storage Tank, ASME	883.92	98.76
22 15 13 00-0108 EA 60 Gallon Horizontal Compressed Air Storage Tank, ASME	1,152.26	133.33
22 15 13 00-0109 EA 80 Gallon Horizontal Compressed Air Storage Tank, ASME	1,395.71	148.14
22 15 13 00-0110 EA 120 Gallon Horizontal Compressed Air Storage Tank, ASME	2,111.65	172.83
22 15 13 00-0111 EA 200 Gallon Horizontal Compressed Air Storage Tank, ASME	3,170.95	197.52
22 15 13 00-0112 EA 240 Gallon Horizontal Compressed Air Storage Tank, ASME	3,539.04	209.87
22 15 13 00-0113 EA 325 Gallon Horizontal Compressed Air Storage Tank, ASME	5,145.80	222.21
22 15 13 00-0114 EA 400 Gallon Horizontal Compressed Air Storage Tank, ASME	6,791.86	259.26
22 15 13 00-0115 EA 660 Gallon Horizontal Compressed Air Storage Tank, ASME	9,793.65	308.64
22 15 13 00-0116 Vertical Compressed Air Storage Tanks (22 15 13 00-0102)		
22 15 13 00-0117 EA 10 Gallon Vertical Compressed Air Storage Tank, ASME	680.40	79.01
22 15 13 00-0118 EA 15 Gallon Vertical Compressed Air Storage Tank, ASME	712.62	86.42
22 15 13 00-0119 EA 20 Gallon Vertical Compressed Air Storage Tank, ASME	773.74	90.86
22 15 13 00-0120 EA 30 Gallon Vertical Compressed Air Storage Tank, ASME	918.40	98.76

22 Plumbing**22 10 Plumbing Piping****22 15 General Service Compressed-Air Systems**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 15 13 00-0121	EA	60 Gallon Vertical Compressed Air Storage Tank, ASME	1,255.69	133.33
22 15 13 00-0122	EA	80 Gallon Vertical Compressed Air Storage Tank, ASME	1,445.51	148.14
22 15 13 00-0123	EA	120 Gallon Vertical Compressed Air Storage Tank, ASME	2,003.34	172.83
22 15 13 00-0124	EA	200 Gallon Vertical Compressed Air Storage Tank, ASME	2,947.72	197.52
22 15 13 00-0125	EA	240 Gallon Vertical Compressed Air Storage Tank, ASME	3,254.50	209.87
22 15 13 00-0126	EA	325 Gallon Vertical Compressed Air Storage Tank, ASME	4,449.31	222.21
22 15 13 00-0127	EA	400 Gallon Vertical Compressed Air Storage Tank, ASME	5,710.91	259.26
22 15 13 00-0128	EA	500 Gallon Vertical Compressed Air Storage Tank, ASME	7,466.71	283.95
22 15 13 00-0129	EA	660 Gallon Vertical Compressed Air Storage Tank, ASME	12,465.04	320.98
22 15 19 General Service Packaged Air Compressors and Receivers (22 15)				
Note: Includes V-belt drive, receiver, motor, starter mounted and wired. Excludes piping, pressure reducing valve station, or air dryer.				
22 15 19 13 General Service Packaged Reciprocating Air Compressors (22 15 19)				
22 15 19 13-0001 Single Stage Compressor (22 15 19 13)				
Note: Includes receiver, reciprocating air cooled, 140 PSIG working pressure, splash lubricated, tank mounted.				
22 15 19 13-0002	EA	1/2 HP 1-Stage Air Compressor, 1.5 ACFM Air Cooled With 30 Gallon Receiver, 140 PSIG Working Pressure	2,937.91	350.41
22 15 19 13-0003	EA	3/4 HP 1-Stage Air Compressor, 2.0 ACFM Air Cooled With 30 Gallon Receiver, 140 PSIG Working Pressure	3,066.45	404.43
22 15 19 13-0004	EA	1 HP 1-Stage Air Compressor, 2.5 ACFM Air Cooled With 30 Gallon Receiver, 140 PSIG Working Pressure	3,497.99	477.62
22 15 19 13-0005	EA	2 HP 1-Stage Air Compressor, Air Cooled With 30 Gallon Receiver, 140 PSIG Working Pressure	3,986.53	527.00
22 15 19 13-0006	EA	3 HP 1-Stage Air Compressor, Air Cooled With 30 Gallon Receiver, 140 PSIG Working Pressure	4,883.53	556.63
22 15 19 13-0007	EA	3 HP 1-Stage Air Compressor, Air Cooled With 60 Gallon Receiver, 140 PSIG Working Pressure	5,219.36	576.38
22 15 19 13-0008	EA	5 HP 1-Stage Air Compressor, Air Cooled With 60 Gallon Receiver, 140 PSIG Working Pressure	5,860.15	658.74
22 15 19 13-0009	EA	5 HP 1-Stage Air Compressor, Air Cooled With 80 Gallon Receiver, 140 PSIG Working Pressure	6,286.26	698.26
22 15 19 13-0010	EA	7.5 HP 1-Stage Air Compressor, Air Cooled With 80 Gallon Receiver, 140 PSIG Working Pressure	7,546.21	790.50
22 15 19 13-0011 Two Stage Compressor (22 15 19 13)				
Note: With receiver, reciprocating air cooled, discharge pressure 80-200 PSIG, receiver capacity as noted, splash lubricated, tank mounted.				
22 15 19 13-0012	EA	1-1/2 HP 2-Stage Air Compressor, 60 Gallon Receiver, 5.0 ACFM, 80-200 PSIG Discharge Pressure	5,621.82	615.88
22 15 19 13-0013	EA	2 HP 2-Stage Air Compressor, 60 Gallon Receiver, 7.0 ACFM, 80-200 PSIG Discharge Pressure	6,030.11	724.62
22 15 19 13-0014	EA	3 HP 2-Stage Air Compressor, 60 Gallon Receiver, 12 ACFM, 80-200 PSIG Discharge Pressure	6,300.36	790.50
22 15 19 13-0015	EA	5 HP 2-Stage Air Compressor, 80 Gallon Receiver, 15 ACFM, 80-200 PSIG Discharge Pressure	7,181.59	1,053.99
22 15 19 13-0016	EA	5 HP 2-Stage Air Compressor, 120 Gallon Receiver, 16.5 ACFM, 80-200 PSI Max Discharge Pressure	7,749.08	1,053.99
22 15 19 13-0017	EA	7.5 HP 2-Stage Air Compressor, 80 Gallon Receiver, 19.8 ACFM, 80-200 PSIG Discharge Pressure	8,304.77	1,317.50
22 15 19 13-0018	EA	7.5 HP 2-Stage Air Compressor, 120 Gallon Receiver, 25.6 ACFM, 80-200 PSI Max Discharge Pressure	8,819.47	1,317.50
22 15 19 13-0019	EA	10 HP 2-Stage Air Compressor, 80 Gallon Receiver, 35.0 ACFM, 80-200 PSI Max Discharge Pressure	11,311.39	1,629.58
22 15 19 13-0020	EA	10 HP 2-Stage Air Compressor, 120 Gallon Receiver, 38 ACFM, 80-200 PSIG Discharge Pressure	12,131.65	1,678.96
22 15 19 13-0021	EA	15 HP 2-Stage Air Compressor, 120 Gallon Receiver, 50 ACFM, 80-200 PSIG Discharge Pressure	13,106.57	1,962.21
22 15 19 13-0022	EA	20 HP 2-Stage Air Compressor, 120 Gallon Receiver, 70 ACFM, 80-200 PSIG Discharge Pressure	19,819.11	2,221.18
22 15 19 13-0023	EA	25 HP 2-Stage Air Compressor, 120 Gallon Receiver, 84.4 ACFM, 175 PSI Max Discharge Pressure	21,279.54	2,509.85
22 15 19 13-0024	EA	30 HP 2-Stage Air Compressor, 120 Gallon Receiver, 97.2 ACFM, 175 PSI Max Discharge Pressure	23,720.65	2,773.94
22 15 19 13-0025	EA	30 HP 2-Stage Air Compressor, 250 Gallon Receiver, 101 ACFM, 175 PSI Max Discharge Pressure	25,803.45	3,040.11
22 15 19 19 General Service Packaged Rotary-Screw Air Compressors (22 15 19)				
22 15 19 19-0001 Rotary Screw Air Compressor, Base Mounted Without Receiver (22 15 19 19)				
Note: Oil flooded.				
22 15 19 19-0002	EA	3 HP, 8.5 SCFM, Rotary Screw Air Compressor With Enclosure, 150 PSIG Max Discharge Pressure, Lubricated	9,620.32	889.49
22 15 19 19-0003	EA	5 HP, 16.6 SCFM, Rotary Screw Air Compressor With Enclosure, 150 PSIG Max Discharge Pressure, Lubricated	10,712.87	1,185.99
22 15 19 19-0004	EA	7.5 HP, 27 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	13,740.16	1,486.95
22 15 19 19-0005	EA	10 HP, 37 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	15,868.59	1,894.91
22 15 19 19-0006	EA	15 HP, 56 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	18,154.16	2,229.30
22 15 19 19-0007	EA	20 HP, 79 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	22,049.85	2,507.97
22 15 19 19-0008	EA	25 HP, 114 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	24,158.59	2,786.63
22 15 19 19-0009	EA	30 HP, 137 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	29,088.99	3,121.02
22 15 19 19-0010	EA	40 HP, 183 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	31,986.30	3,343.95
22 15 19 19-0011	EA	50 HP, 214 SCFM, Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	35,924.01	3,603.67
22 15 19 19-0012	EA	60 HP, 256 SCFM Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	46,811.49	3,901.29
22 15 19 19-0013	EA	75 HP, 320 SCFM Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	51,965.58	4,124.21
22 15 19 19-0014	EA	100 HP, 494 SCFM Rotary Screw Air Compressor With Enclosure, 100 PSIG Max Discharge Pressure, Lubricated	83,676.96	4,458.61
22 15 19 19-0015	EA	125 HP, 592 SCFM Rotary Screw Air Compressor With Enclosure, 100 PSIG Max Discharge Pressure, Lubricated	104,489.61	4,820.87
22 15 19 19-0016	EA	150 HP, 695 SCFM Rotary Screw Air Compressor With Enclosure, 100 PSIG Max Discharge Pressure, Lubricated	121,430.47	5,188.70
22 15 19 19-0017	EA	220 HP, 996 SCFM Rotary Screw Air Compressor With Enclosure, 100 PSIG Max Discharge Pressure, Lubricated	158,152.40	5,573.26
22 15 19 19-0018	EA	250 HP, 1,000 SCFM Rotary Screw Air Compressor With Enclosure, 125 PSIG Max Discharge Pressure, Lubricated	179,735.10	5,929.95
22 15 19 19-0019 Rotary Screw Air Compressor, Base Mounted With Receiver (22 15 19 19)				
Note: Includes receiver, motor, starter mounted and wired. Excludes piping, pressure reducing valve station, or air dryer.				
22 15 19 19-0020	EA	5 HP, 18.5 SCFM, 80 Gallon Receiver, Rotary Screw Air Compressor, 150 PSIG Max Discharge Pressure, Lubricated	11,998.30	1,185.99



Plumbing			22
Plumbing Piping			22 10
General Service Compressed-Air Systems			22 15

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MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 15 19 19-0021	EA	5 HP, 18.5 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 150 PSIG Max Discharge Pressure, Lubricated.....	12,758.48	1,185.99
22 15 19 19-0022	EA	7.5 HP, 28 SCFM, 80 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated.....	14,344.60	1,486.95
22 15 19 19-0023	EA	7.5 HP, 28 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated.....	15,176.05	1,486.95
22 15 19 19-0024	EA	10 HP, 38 SCFM, 80 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated.....	16,201.17	1,894.91
22 15 19 19-0025	EA	10 HP, 38 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated.....	17,080.12	1,894.91
22 15 19 19-0026	EA	15 HP, 55 SCFM, 80 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated.....	18,428.67	2,229.30
22 15 19 19-0027	EA	15 HP, 55 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated.....	19,378.89	2,229.30
22 15 19 19-0028	EA	20 HP, 75 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated.....	32,058.83	2,507.97
22 15 19 19-0029	EA	25 HP, 102 SCFM, 120 gallon receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated.....	34,523.90	2,786.63
22 15 19 19-0030	EA	30 HP, 125 SCFM, 120 Gallon Receiver, Rotary Screw Air Compressor, 125 PSIG Max Discharge Pressure, Lubricated.....	36,751.45	3,121.02

22 30 Plumbing Equipment ⁽²²⁾

22 31 Domestic Water Softeners ^(22 30)

22 31 13 Residential Domestic Water Softeners ^(22 31)

See CSI section 11 30 13 13-0104 for residential water softener.

22 31 16 Commercial Domestic Water Softeners ^(22 31)

22 31 16 00-0001 Commercial Water Softeners (Watts Pure Water) ^(22 31 16)

22 31 16 00-0002 Commercial Water Softeners (Watts Pure Water) ^(22 31 16 00-0001)

22 31 16 00-0003 1" Pipe Connection, Commercial Water Softeners (Watts Pure Water) ^(22 31 16 00-0002)

Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.

22 31 16 00-0004	EA	30,000 Grain Capacity, 1" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10111A11).....	5,103.80	282.17
22 31 16 00-0005	EA	45,000 Grain Capacity, 1" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10111B11).....	5,334.80	294.99
22 31 16 00-0006	EA	60,000 Grain Capacity, 1" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10111C11).....	5,764.50	307.81
22 31 16 00-0007	EA	90,000 Grain Capacity, 1" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10111D11).....	6,655.65	320.64
22 31 16 00-0008	EA	120,000 Grain Capacity, 1" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10111E11).....	7,098.60	333.47

22 31 16 00-0009 1-1/2" Pipe Connection, Commercial Water Softeners (Watts Pure Water) ^(22 31 16 00-0002)

Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.

22 31 16 00-0010	EA	60,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121C11).....	7,714.09	307.81
22 31 16 00-0011	EA	90,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121D11).....	8,115.09	320.64
22 31 16 00-0012	EA	120,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121E11).....	8,560.24	333.47
22 31 16 00-0013	EA	150,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121F11).....	10,202.10	346.29
22 31 16 00-0014	EA	210,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121G11).....	11,355.99	359.12
22 31 16 00-0015	EA	300,000 Grain Capacity, 1-1/2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS15121H11).....	13,865.56	371.94

22 31 16 00-0016 2" Pipe Connection, Commercial Water Softeners (Watts Pure Water) ^(22 31 16 00-0002)

Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.

22 31 16 00-0017	EA	90,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131D11).....	11,802.32	320.64
22 31 16 00-0018	EA	120,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131E11).....	12,232.01	333.47
22 31 16 00-0019	EA	150,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131F11).....	13,878.29	346.29
22 31 16 00-0020	EA	210,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131G11).....	15,032.18	359.12
22 31 16 00-0021	EA	300,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131H11).....	17,678.64	371.94
22 31 16 00-0022	EA	450,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131I11).....	23,380.84	384.77

22 Plumbing**22 30 Plumbing Equipment****22 31 Domestic Water Softeners**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 31 16 00-0023	EA	600,000 Grain Capacity, 2" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131J11).....	27,382.96	397.59
22 31 16 00-0024		3" Pipe Connection, Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0002) Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.		
22 31 16 00-0025	EA	300,000 Grain Capacity, 3" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151H11).....	28,771.23	371.94
22 31 16 00-0026	EA	450,000 Grain Capacity, 3" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151I11).....	33,265.70	384.77
22 31 16 00-0027	EA	600,000 Grain Capacity, 3" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151J11).....	37,214.83	397.59
22 31 16 00-0028	EA	900,000 Grain Capacity, 3" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151K11).....	46,908.96	410.42
22 31 16 00-0029	EA	1050,000 Grain Capacity, 3" Pipe Connection, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151L11).....	51,959.84	423.25
22 31 16 00-0030		Duplex Alternating (Two Valves), Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0001)		
22 31 16 00-0031		2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0030) Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and two fully automatic metered demand control valves.		
22 31 16 00-0032	EA	90,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131D21).....	19,398.05	480.96
22 31 16 00-0033	EA	120,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131E21).....	20,260.09	500.19
22 31 16 00-0034	EA	150,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131F21).....	23,100.41	519.44
22 31 16 00-0035	EA	210,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131G21).....	25,273.96	538.68
22 31 16 00-0036	EA	300,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131H21).....	30,911.71	557.91
22 31 16 00-0037	EA	450,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131I21).....	41,049.22	577.15
22 31 16 00-0038	EA	600,000 Grain Capacity, 2" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS20131J21).....	48,364.99	596.39
22 31 16 00-0039		3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0030) Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and two fully automatic metered demand control valves.		
22 31 16 00-0040	EA	300,000 Grain Capacity, 3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151H21).....	52,911.43	557.91
22 31 16 00-0041	EA	450,000 Grain Capacity, 3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151I21).....	60,823.35	577.15
22 31 16 00-0042	EA	600,000 Grain Capacity, 3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151J21).....	68,384.20	596.39
22 31 16 00-0043	EA	900,000 Grain Capacity, 3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151K21).....	87,099.48	615.63
22 31 16 00-0044	EA	1,050,000 Grain Capacity, 3" Pipe Connection, Duplex Alternating (Two Valves), Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS30151L21).....	97,278.93	634.87
22 31 16 00-0045		Twin Alternating, Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0001)		
22 31 16 00-0046		1" Pipe Connection, Twin Alternating, Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0045) Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.		
22 31 16 00-0047	EA	30,000 Grain Capacity, 1" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161A21).....	6,679.81	423.25
22 31 16 00-0048	EA	45,000 Grain Capacity, 1" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161B21).....	7,128.97	442.49
22 31 16 00-0049	EA	60,000 Grain Capacity, 1" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161C21).....	7,787.86	461.72
22 31 16 00-0050	EA	90,000 Grain Capacity, 1" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161D21).....	9,389.55	480.96
22 31 16 00-0051	EA	120,000 Grain Capacity, 1" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161E21).....	10,403.93	500.19
22 31 16 00-0052		1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softeners (Watts Pure Water) (22 31 16 00-0045) Note: Includes corrosion resistant NSF Certified fiberglass mineral and brine tanks and fully automatic metered demand control valve.		
22 31 16 00-0053	EA	60,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161A21).....	13,292.21	461.72



		Plumbing	22
		Plumbing Equipment	22 30
		Domestic Water Softeners	22 31

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 31 16 00-0054 EA 90,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161B21)	14,019.56	480.96
22 31 16 00-0055 EA 120,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161C21)	15,100.18	500.19
22 31 16 00-0056 EA 150,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161D21)	17,315.66	519.44
22 31 16 00-0057 EA 210,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161E21)	19,564.27	538.68
22 31 16 00-0058 EA 300,000 Grain Capacity, 1-1/2" Pipe Connection, Twin Alternating, Commercial Water Softener With Fiberglass Tanks (Watts Pure Water PWS10T161E21)	24,563.94	557.91

22 32 Domestic Water Filtration Equipment (22 30)**22 32 16 Domestic-Water Freestanding Cartridge Filters** (22 32)

22 32 16 00-0001	Commercial Water Filters Housings	(22 32 16)		
22 32 16 00-0002	Commercial Multi-Cartridge Stainless Steel Water Filter Housings	(22 32 16 00-0001)		
22 32 16 00-0003	Commercial Multi-Cartridge Stainless Steel Water Filter Housings	(22 32 16 00-0002)		
22 32 16 00-0004 EA	25 GPM Max Flow Rate, 4 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS4X1)	2,625.39	181.13	
22 32 16 00-0005 EA	30 GPM Max Flow Rate, 5 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS5X1)	2,673.12	195.07	
22 32 16 00-0006 EA	60 GPM Max Flow Rate, 4 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS4X2)	2,844.50	208.99	
22 32 16 00-0007 EA	90 GPM Max Flow Rate, 4 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS4X3)	3,152.77	222.93	
22 32 16 00-0008 EA	120 GPM Max Flow Rate, 4 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS4X4)	3,244.66	236.86	
22 32 16 00-0009 EA	150 GPM Max Flow Rate, 5 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS5X4)	3,948.15	250.80	
22 32 16 00-0010 EA	250 GPM Max Flow Rate, 12 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS12X3)	11,275.41	264.73	
22 32 16 00-0011 EA	300 GPM Max Flow Rate, 12 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS12X4)	13,129.22	278.67	
22 32 16 00-0012 EA	500 GPM Max Flow Rate, 22 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS22X3)	16,694.17	292.59	
22 32 16 00-0013 EA	600 GPM Max Flow Rate, 22 Cartridge, Commercial Multi-Cartridge Stainless Steel Water Filter Housing (Watts Pure Water PWHS22X4)	18,525.92	306.53	

22 32 16 00-0014 Commercial Water Filter Cartridges (22 32 16 00-0002)

22 32 16 00-0015	(Depth) Water Filter Cartridges	(22 32 16 00-0014)		
22 32 16 00-0016 EA	50 Micron, 10" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB10M50)	12.74	2.23	
22 32 16 00-0017 EA	20 Micron, 10" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB10M20)	12.74	2.23	
22 32 16 00-0018 EA	10 Micron, 10" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB10M10)	12.74	2.23	
22 32 16 00-0019 EA	5 Micron, 10" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB10M5)	10.53	2.23	
22 32 16 00-0020 EA	1 Micron, 10" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB10M1)	13.29	2.23	
22 32 16 00-0021 EA	50 Micron, 20" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB20M50)	13.29	2.23	
22 32 16 00-0022 EA	20 Micron, 20" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB20M20)	14.40	2.23	
22 32 16 00-0023 EA	5 Micron, 20" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Big Pure Water PWMB20M5)	18.26	2.23	
22 32 16 00-0024 EA	1 Micron, 20" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB20M1)	14.40	2.23	
22 32 16 00-0025 EA	50 Micron, 30" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB30M50)	17.16	2.23	
22 32 16 00-0026 EA	20 Micron, 30" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB30M20)	17.16	2.23	
22 32 16 00-0027 EA	5 Micron, 30" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB30M5)	17.16	2.23	
22 32 16 00-0028 EA	1 Micron, 30" Depth, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB30M1)	18.81	2.23	
22 32 16 00-0029 EA	50 Micron, 40" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB40M50)	24.88	2.23	
22 32 16 00-0030 EA	20 Micron, 40" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB40M20)	22.68	2.23	
22 32 16 00-0031 EA	5 Micron, 40" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB40M5)	22.68	2.23	
22 32 16 00-0032 EA	1 Micron, 40" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Pure Water PWMB40M1)	24.88	2.23	

22 32 16 00-0033 Pleated Water Filter Cartridges (22 32 16 00-0014)

22 32 16 00-0034 EA	50 Micron, 9-3/4" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL10M50)	23.23	2.23	
22 32 16 00-0035 EA	20 Micron, 9-3/4" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL10M20)	23.23	2.23	
22 32 16 00-0036 EA	5 Micron, 9-3/4" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL10M5)	23.78	2.23	
22 32 16 00-0037 EA	1 Micron, 9-3/4" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL10M1)	25.44	2.23	
22 32 16 00-0038 EA	1 Micron Absolute, 9-3/4" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL10M1AB)	38.68	2.23	
22 32 16 00-0039 EA	50 Micron, 20" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL20M50)	37.03	2.23	
22 32 16 00-0040 EA	20 Micron, 20" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL20M20)	37.03	2.23	
22 32 16 00-0041 EA	5 Micron, 20" Length, Pleated Water Filter Cartridge (Watts Big Pure Water PWPL20M5)	37.03	2.23	
22 32 16 00-0042 EA	1 Micron, 20" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL20M1)	49.17	2.23	
22 32 16 00-0043 EA	1 Micron Absolute, 20" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL20M1AB)	70.15	2.23	
22 32 16 00-0044 EA	50 Micron, 40" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL40M50)	58.55	2.23	
22 32 16 00-0045 EA	20 Micron, 40" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL40M20)	81.74	2.23	
22 32 16 00-0046 EA	5 Micron, 40" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL40M5)	85.05	2.23	
22 32 16 00-0047 EA	1 Micron, 40" Length, Pleated Water Filter Cartridge (Watts Pure Water PWPL40M1)	96.09	2.23	

22 32 16 00-0048 Commercial Non-Metallic Water Filter Housings (22 32 16 00-0001)

22 Plumbing**22 30 Plumbing Equipment****22 32 Domestic Water Filtration Equipment**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 32 16 00-0049		Commercial Non-Metallic Water Filter Housings (22 32 16 00-0048)		
22 32 16 00-0050	EA	150 GPM Max Flow Rate, 1 Cartridge, Commercial Non-Metallic Water Filter Housing (Watts Big Bubba® PWWJCHSG).....	2,057.68	167.20
22 32 16 00-0051		Commercial Water Filter Cartridges (22 32 16 00-0048)		
22 32 16 00-0052		Carbon Water Filter Cartridges (22 32 16 00-0051)		
22 32 16 00-0053	EA	Activated 26-1/4" Length, Carbon Water Filter Cartridge (Watts Big Bubba® PWWJCAC5).....	692.23	2.23
22 32 16 00-0054		(Depth) Water Filter Cartridges (22 32 16 00-0051)		
22 32 16 00-0055	EA	50 Micron, 26-1/4" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Big Bubba® PWWJCMB50).....	143.01	2.23
22 32 16 00-0056	EA	20 Micron, 26-1/4" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Big Bubba® PWWJCMB20).....	141.90	2.23
22 32 16 00-0057	EA	5 Micron, 26-1/4" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Big Bubba® PWWJCMB5).....	141.90	2.23
22 32 16 00-0058	EA	1 Micron, 26-1/4" Length, Melt Blown (Depth) Water Filter Cartridge (Watts Big Bubba® PWWJCMB1).....	162.88	2.23
22 32 16 00-0059		Pleated Water Filter Cartridges (22 32 16 00-0051)		
22 32 16 00-0060	EA	150 Micron, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCM150).....	379.81	2.23
22 32 16 00-0061	EA	50 Micron, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCP50).....	356.62	2.23
22 32 16 00-0062	EA	20 Micron, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCP20).....	388.64	2.23
22 32 16 00-0063	EA	5 Micron, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCP5).....	407.41	2.23
22 32 16 00-0064	EA	1 Micron, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCP1).....	433.90	2.23
22 32 16 00-0065	EA	1 Absolute, 26-1/4" Length, Pleated Water Filter Cartridge (Watts Big Bubba® PWWJCP1AB).....	470.33	2.23
22 33		Electric Domestic Water Heaters (22 30)		
22 33 13		Instantaneous Electric Domestic Water Heaters (22 33)		
22 33 13 13		Flow-Control, Instantaneous Electric Domestic Water Heaters (22 33 13)		
22 33 13 13-0001		Flow Controlled, Instantaneous, Tankless, Electric Domestic Water Heaters (22 33 13 13)		
22 33 13 13-0002	EA	2.4 KW Flow Controlled, Instantaneous, Tankless, Electric Domestic Water Heater (Eemax SP2412).....	491.41	55.71
22 33 13 13-0003	EA	3 To 10 KW Flow Controlled, Instantaneous, Tankless, Electric Domestic Water Heater (Eemax EX3012, EX48, EX65, EX75, EX95).....	531.04	55.71
22 33 13 13-0004	EA	7.2 KW, 0.75 GPM, Instantaneous, Tankless, Electric Domestic Water Heater (Bosch RP7P).....	607.35	55.71
22 33 13 16		Thermostat-Control, Instantaneous Electric Domestic Water Heaters (22 33 13)		
22 33 13 16-0001		Thermostat Controlled, Instantaneous, Tankless, Electric Domestic Water Heaters (22 33 13 16)		
		Note: Temperature rise decreases with increased flow rate.		
22 33 13 16-0002	EA	3 To 10 KW Thermostat-Control, Instantaneous, Tankless, Electric Domestic Water Heater (Eemax EX3012T, EX48T, EX65T, EX75T, EX95T, EX012240T).....	703.06	83.56
22 33 13 16-0003	EA	12 KW, 2.0 GPM, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Bosch PowerStar AE12).....	760.48	111.42
22 33 13 16-0004	EA	17.25 KW, 2.3 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Bosch PowerStar AE115).....	1,286.30	194.99
22 33 13 16-0005	EA	26.85 KW, 4.0 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Bosch PowerStar AE125).....	1,969.40	222.83
22 33 13 16-0006	EA	12 KW, 1.6 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Temptra 12 Plus).....	1,437.45	111.42
22 33 13 16-0007	EA	14.4 KW, 2.3 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Temptra 15 Plus).....	1,960.77	167.13
22 33 13 16-0008	EA	19.2 KW, 2.8 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Temptra 20 Plus).....	2,151.76	222.83
22 33 13 16-0009	EA	24 KW, 3.3 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Temptra 24 Plus).....	2,236.01	222.83
22 33 13 16-0010	EA	28.8 KW, 4.5 GPM At 45 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Temptra 29 Plus).....	2,315.58	222.83
22 33 13 16-0011	EA	36 KW, 4.5 GPM At 55 Degree Rise, Indoor Mount, Instantaneous, Tankless, Electric Domestic Water Heater (Stiebel Eltron Temptra 36 Plus).....	2,432.59	222.83
22 33 30		Residential, Electric Domestic Water Heaters (22 33)		
22 33 30 13		Residential, Small-Capacity Electric Domestic Water Heaters (22 33 30)		
22 33 30 13-0001		Small-Capacity, Electric Domestic Water Heaters (A.O. Smith ProMax) (22 33 30 13)		
		Note: Includes glass lined tank, drain valve and temperature and pressure relief valve. Excludes electrical connections.		
22 33 30 13-0002	EA	2 Gallon, Small-Capacity, Electric Domestic Water Heater.....	968.68	175.49
22 33 30 13-0003	EA	10 Gallon, Small-Capacity, Electric Domestic Water Heater.....	1,196.91	186.63
22 33 30 13-0004	EA	20 Gallon, Small-Capacity, Electric Domestic Water Heater.....	1,419.56	194.99
22 33 30 16		Residential, Storage Electric Domestic Water Heaters (22 33 30)		



Plumbing			22
Plumbing Equipment			22 30
Electric Domestic Water Heaters			22 33

MINOR		TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION		UNIT COST		UNIT COST	
22 33 30 16-0001	Electric Domestic Water Heaters (A.O. Smith ProMax) (22 33 30 16) Note: Includes glass lined tank, drain valve and temperature and pressure relief valve. Excludes electrical connections.				
22 33 30 16-0002	EA	30 Gallon, Electric Domestic Water Heater	1,520.22		194.99
22 33 30 16-0003	EA	40 Gallon, Electric Domestic Water Heater	1,425.56		200.56
22 33 30 16-0004	EA	50 Gallon, Electric Domestic Water Heater	1,400.66		206.13
22 33 30 16-0005	EA	55 Gallon, Electric Domestic Water Heater	1,569.06		208.91
22 33 30 16-0006	EA	66 Gallon, Electric Domestic Water Heater	2,302.94		214.48
22 33 30 16-0007	EA	80 Gallon, Electric Domestic Water Heater	2,345.41		222.83
22 33 30 16-0008	EA	120 Gallon, Electric Domestic Water Heater	3,135.64		236.76
22 33 30 16-0009	Low-Boy, Electric Domestic Water Heaters (A.O. Smith ProMax) (22 33 30 16) Note: Includes glass lined tank, drain valve and temperature and pressure relief valve. Excludes electrical connections.				
22 33 30 16-0010	EA	30 Gallon, Low-Boy, Electric Domestic Water Heater.....	1,635.81		194.99
22 33 30 16-0011	EA	40 Gallon, Low-Boy, Electric Domestic Water Heater.....	1,554.28		200.56
22 33 30 16-0012	EA	50 Gallon, Low-Boy, Electric Domestic Water Heater.....	1,647.80		206.13
22 33 30 16-0013	High Efficiency, Electric Domestic Water Heaters (A.O. Smith Conservationist) (22 33 30 16) Note: Includes .95 energy factor glass lined tank, drain valve and temperature and pressure relief valve. Excludes electrical connections.				
22 33 30 16-0014	EA	40 Gallon, High Efficiency, Electric Domestic Water Heater	1,689.30		200.56
22 33 30 16-0015	EA	50 Gallon, High Efficiency, Electric Domestic Water Heater	1,848.60		206.13
22 33 30 16-0016	EA	66 Gallon, High Efficiency, Electric Domestic Water Heater	2,284.79		214.48
22 33 30 16-0017	EA	80 Gallon, High Efficiency, Electric Domestic Water Heater	2,486.87		222.83
22 33 30 16-0018	Water Heater Accessories (22 33 30 16)				
22 33 30 16-0019	EA	2 Gallon, Expansion Pressure Tank For Water Heaters	130.54		11.14
22 33 30 16-0020	EA	4.4 Gallon, Expansion Pressure Tank For Water Heaters	154.69		11.14
22 33 30 16-0021	EA	7.6 Gallon, Expansion Pressure Tank For Water Heaters	303.90		11.14
22 33 30 16-0022	EA	14 Gallon, Expansion Pressure Tank For Water Heaters	408.90		11.14
22 33 30 16-0023	EA	20" Diameter, 3" Deep, Aluminum Water Heater Drain Pan	74.53		8.36
22 33 30 16-0024	EA	22" Diameter, 2-1/2" Deep, Aluminum Water Heater Drain Pan	81.50		8.36
22 33 30 16-0025	EA	24" Diameter, 3" Deep, Aluminum Water Heater Drain Pan	86.14		8.36
22 33 30 16-0026	EA	26" Diameter, 2-1/2" Deep, Aluminum Water Heater Drain Pan	102.40		8.36
22 33 30 16-0027	EA	22" Diameter, 2-1/2" Deep, Polyethylene Water Heater Drain Pan	39.58		8.36
22 33 30 16-0028	EA	24" Diameter, 2-1/2" Deep, Polyethylene Water Heater Drain Pan	43.30		8.36
22 33 30 16-0029	EA	26" Diameter, 2-1/2" Deep, Polyethylene Water Heater Drain Pan	48.52		8.36
22 33 30 16-0030	EA	28" Diameter, 2-1/2" Deep, Polyethylene Water Heater Drain Pan	55.24		8.36
22 33 30 23	Residential, Collector-To-Tank, Solar-Electric Domestic Water Heaters (22 33 30)				
22 33 30 23-0001	Solar Electric Domestic Water Heaters (A.O. Smith CIRREX) (22 33 30 23) Note: Includes glass lined tank, drain valve and temperature and pressure relief valve. Excludes electrical connections.				
22 33 30 23-0002	EA	80 Gallon, Solar Electric Domestic Water Heater	3,890.60		222.83
22 33 30 23-0003	EA	120 Gallon, Solar Electric Domestic Water Heater	4,671.09		236.76
22 33 33	Light-Commercial Electric Domestic Water Heaters (22 33)				
22 33 33 00-0001	Standard Duty Electric Commercial Water Heaters (A.O. Smith DEL And DEN) (22 33 33) Note: Includes glass lined tank, drain valve, and temperature and pressure relief valve.				
22 33 33 00-0002	EA	Up To 2.5 KW, 6 Gallon, Single Element Lowboy Electric Commercial Water Heater (DEL-6S).....	2,031.98		194.99
22 33 33 00-0003	EA	Up To 6 KW, 10 Gallon, Single Element Lowboy Electric Commercial Water Heater (DEL-10S).....	2,198.84		194.99
22 33 33 00-0004	EA	Up To 6 KW, 20 Gallon, Single Element Lowboy Electric Commercial Water Heater (DEL-20S).....	2,379.04		222.83
22 33 33 00-0005	EA	Up To 12 KW, 30 Gallon, Dual Element Lowboy Electric Commercial Water Heater (DEL-30D).....	4,286.05		222.83
22 33 33 00-0006	EA	Up To 12 KW, 40 Gallon, Dual Element Lowboy Electric Commercial Water Heater (DEL-40D).....	4,927.19		278.55
22 33 33 00-0007	EA	Up To 12 KW, 50 Gallon, Dual Element Lowboy Electric Commercial Water Heater (DEL-50D).....	5,435.90		334.26
22 33 33 00-0008	EA	Up To 12 KW, 80 Gallon, Dual Element Standard Upright Electric Commercial Water Heater (DEN-80D).....	6,400.54		501.38
22 33 33 00-0009	Heavy Duty Electric Commercial Water Heaters (A.O. Smith DSE) (22 33 33) Note: Includes glass lined tank, ASME tank construction, drain valve, and temperature and pressure relief valve.				
22 33 33 00-0010	EA	3 KW, 5 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-5-3)	7,938.41		194.99
22 33 33 00-0011	EA	3 KW, 10 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-10-3)	8,256.24		194.99
22 33 33 00-0012	EA	6 KW, 10 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-10-6)	8,600.57		194.99
22 33 33 00-0013	EA	3 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-3)	8,656.29		222.83
22 33 33 00-0014	EA	6 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-6)	9,053.58		222.83
22 33 33 00-0015	EA	9 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-9)	9,689.25		222.83
22 33 33 00-0016	EA	12 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-12)	10,113.03		222.83
22 33 33 00-0017	EA	15 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-15)	10,457.35		222.83
22 33 33 00-0018	EA	18 KW, 20 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-20-18)	10,828.16		222.83
22 33 33 00-0019	EA	6 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-6)	9,450.87		222.83
22 33 33 00-0020	EA	9 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-9)	9,821.68		222.83

22 Plumbing
22 30 Plumbing Equipment
22 33 Electric Domestic Water Heaters



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 33 33 00-0021 EA 12 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-12)	10,245.46	222.83
22 33 33 00-0022 EA 15 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-15)	10,589.78	222.83
22 33 33 00-0023 EA 18 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-18)	10,960.59	222.83
22 33 33 00-0024 EA 24 KW, 30 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-30-24)	13,688.67	222.83
22 33 33 00-0025 EA 9 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-9)	10,277.41	278.55
22 33 33 00-0026 EA 12 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-12)	10,621.73	278.55
22 33 33 00-0027 EA 15 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-15)	11,045.51	278.55
22 33 33 00-0028 EA 18 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-18)	11,416.32	278.55
22 33 33 00-0029 EA 24 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-24)	14,170.89	278.55
22 33 33 00-0030 EA 30 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-30)	15,442.23	278.55
22 33 33 00-0031 EA 36 KW, 40 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-40-36)	16,687.08	278.55
22 33 33 00-0032 EA 9 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-9)	11,872.06	334.26
22 33 33 00-0033 EA 12 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-12)	12,216.38	334.26
22 33 33 00-0034 EA 15 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-15)	12,560.70	334.26
22 33 33 00-0035 EA 18 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-18)	12,931.51	334.26
22 33 33 00-0036 EA 24 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-24)	15,765.54	334.26
22 33 33 00-0037 EA 30 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-30)	17,036.88	334.26
22 33 33 00-0038 EA 36 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-36)	18,281.73	334.26
22 33 33 00-0039 EA 45 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-45)	20,533.07	334.26
22 33 33 00-0040 EA 54 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-54)	21,539.54	334.26
22 33 33 00-0041 EA 60 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-60)	25,035.73	334.26
22 33 33 00-0042 EA 75 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-75)	29,538.39	334.26
22 33 33 00-0043 EA 90 KW, 50 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-50-90)	37,113.46	334.26
22 33 33 00-0044 EA 9 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-9)	13,313.27	445.68
22 33 33 00-0045 EA 12 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-12)	13,710.56	445.68
22 33 33 00-0046 EA 15 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-15)	14,081.37	445.68
22 33 33 00-0047 EA 18 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-18)	14,399.21	445.68
22 33 33 00-0048 EA 24 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-24)	17,206.75	445.68
22 33 33 00-0049 EA 30 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-30)	18,478.09	445.68
22 33 33 00-0050 EA 36 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-36)	19,696.46	445.68
22 33 33 00-0051 EA 45 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-45)	22,000.76	445.68
22 33 33 00-0052 EA 54 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-54)	22,980.75	445.68
22 33 33 00-0053 EA 60 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-60)	26,503.42	445.68
22 33 33 00-0054 EA 75 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-75)	31,032.57	445.68
22 33 33 00-0055 EA 90 KW, 65 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-65-90)	38,581.15	445.68
22 33 33 00-0056 EA 12 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-12)	14,881.43	501.38
22 33 33 00-0057 EA 15 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-15)	15,252.24	501.38
22 33 33 00-0058 EA 18 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-18)	15,570.08	501.38
22 33 33 00-0059 EA 24 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-24)	18,404.10	501.38
22 33 33 00-0060 EA 30 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-30)	19,543.01	501.38
22 33 33 00-0061 EA 36 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-36)	20,867.33	501.38
22 33 33 00-0062 EA 45 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-45)	23,171.63	501.38
22 33 33 00-0063 EA 54 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-54)	24,178.11	501.38
22 33 33 00-0064 EA 60 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-60)	27,488.89	501.38
22 33 33 00-0065 EA 75 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-75)	32,203.44	501.38
22 33 33 00-0066 EA 90 KW, 80 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-80-90)	39,752.02	501.38
22 33 33 00-0067 EA 15 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-15)	16,740.94	557.09
22 33 33 00-0068 EA 18 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-18)	17,164.72	557.09
22 33 33 00-0069 EA 24 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-24)	19,919.29	557.09
22 33 33 00-0070 EA 30 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-30)	21,190.63	557.09
22 33 33 00-0071 EA 36 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-36)	22,435.48	557.09
22 33 33 00-0072 EA 45 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-45)	24,686.81	557.09
22 33 33 00-0073 EA 54 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-54)	25,719.77	557.09
22 33 33 00-0074 EA 60 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-60)	29,189.47	557.09
22 33 33 00-0075 EA 75 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-75)	33,692.14	557.09
22 33 33 00-0076 EA 90 KW, 100 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-100-90)	41,293.69	557.09
22 33 33 00-0077 EA 15 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-15)	17,917.29	668.51
22 33 33 00-0078 EA 18 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-18)	18,288.10	668.51
22 33 33 00-0079 EA 24 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-24)	21,042.67	668.51
22 33 33 00-0080 EA 30 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-30)	22,261.04	668.51
22 33 33 00-0081 EA 36 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-36)	23,558.86	668.51
22 33 33 00-0082 EA 45 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-45)	25,810.19	668.51
22 33 33 00-0083 EA 54 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-54)	26,763.70	668.51
22 33 33 00-0084 EA 60 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-60)	30,339.34	668.51
22 33 33 00-0085 EA 75 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-75)	34,868.49	668.51
22 33 33 00-0086 EA 90 KW, 120 Gallon, Heavy Duty Electric Commercial Water Heater (DSE-120-90)	42,390.59	668.51
22 33 33 00-0087 Water Heater Accessories (22 33 33)		
22 33 33 00-0088 EA Up To 80 Gallon Water Heater Strap	48.38	
Note: Includes (4) Straps (4) J-Clips (4) Lag Bolts (2) 3/8" Carriage Bolts (2) 3/8" Hex Nuts		
22 33 33 00-0089 EA >80 To 120 Gallon Water Heater Strap	71.11	
Note: Includes (4) Straps (4) J-Clips (4) Lag Bolts (2) 3/8" Carriage Bolts (2) 3/8" Hex Nuts		
22 33 33 00-0090 Removal And Reinstallation Of Water Heater (22 33 33)		
Note: Includes storage and cleaning.		
22 33 33 00-0091 EA Removal And Reinstallation Of Water Heater Electric, Up To 82 Gallon	371.39	
22 33 33 00-0092 EA Removal And Reinstallation Of Water Heater Electric, 83 Gallon To 200 Gallon	1,114.18	



	Plumbing	22	
	Plumbing Equipment	22 30	22
	Fuel-Fired Domestic Water Heaters	22 34	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

22 34 Fuel-Fired Domestic Water Heaters (22 30)

22 34 13 Instantaneous, Tankless, Gas Domestic Water Heaters (22 34)

22 34 13 00-0001	Instantaneous, Tankless, Gas Domestic Water Heaters (22 34 13)		
22 34 13 00-0002	Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heaters (22 34 13 00-0001) Note: Includes vent connection. Excludes vent.		
22 34 13 00-0003	EA 4.2 GPM, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-42PVN).....	2,148.60	222.83
22 34 13 00-0004	EA 5.3 GPM, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-53PVN).....	2,332.57	225.62
22 34 13 00-0005	EA 5.3 GPM, Direct Vent, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-53DVN).....	2,570.77	231.19
22 34 13 00-0006	EA 6.6 GPM, Direct Vent, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-66DVN).....	3,019.54	236.76
22 34 13 00-0007	EA 7.4 GPM, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-74PVN).....	3,683.41	250.69
22 34 13 00-0008	EA 7.4 GPM, Direct Vent, Indoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-74DVN).....	3,764.50	250.69

22 34 13 00-0009 Outdoor Mount, Instantaneous, Tankless, Gas Domestic Water Heaters (22 34 13 00-0001)

22 34 13 00-0010	EA 5.3 GPM, Outdoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-53XN).....	2,327.00	222.83
22 34 13 00-0011	EA 7.4 GPM, Outdoor Mount, Instantaneous, Tankless, Gas Domestic Water Heater (Rheem RTG-74XN).....	3,683.41	250.69

22 34 13 00-0012 Indoor Mount, Instantaneous, Tankless, Natural Gas Domestic Water Heaters (22 34 13 00-0001)

22 34 13 00-0013	EA 11 GPM, 15 MBTU Minimum To 199 MBTU Maximum, Indoor Mount, Instantaneous, Tankless, Natural Gas Domestic Water Heater (Rinnai CU199IN).....	3,277.11	334.26

22 34 30 Residential Gas Domestic Water Heaters (22 34)

22 34 30 13 Residential, Atmospheric, Gas Domestic Water Heaters (22 34 30)

22 34 30 13-0001	Atmospheric, Gas Domestic Water Heaters (A.O. Smith ProMax) (22 34 30 13) Note: Includes glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.		
22 34 30 13-0002	EA 30 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith GCV-30).....	1,587.28	214.48
22 34 30 13-0003	EA 40 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith GCV-40).....	1,554.66	220.05
22 34 30 13-0004	EA 50 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith GCVX-50).....	2,098.69	225.62
22 34 30 13-0005	EA 65 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith GCV-65).....	2,277.29	231.19
22 34 30 13-0006	EA 75 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith FCG-75).....	2,494.25	236.76
22 34 30 13-0007	EA 100 Gallon, Atmospheric, Gas Domestic Water Heater (A. O. Smith FCG-100).....	3,734.74	250.69

22 34 30 13-0008 Atmospheric, Gas Domestic Water Heaters (22 34 30 13)

22 34 30 13-0009	EA 40 Gallon, 40 MBH, Tall, 67% Efficient, Gas Fired Domestic Water Heater (A. O. Smith GCF-40).....	2,350.97	220.05
22 34 30 13-0010	EA 50 Gallon, 40 MBH, Tall, 67% Efficient, Energy Star, Gas Fired Domestic Water Heater (A. O. Smith GCF-50).....	2,574.45	225.62
22 34 30 13-0011	EA 40 Gallon, 40 MBH, Short, 67% Efficient, Energy Star, Gas Fired Domestic Water Heater (A. O. Smith GCFL-40).....	2,287.27	220.05
22 34 30 13-0012	EA 40 Gallon, 40 MBH, 70% Efficient, Gas Fired Domestic Water Heater (A. O. Smith GAHH-40).....	2,393.44	220.05
22 34 30 13-0013	EA 50 Gallon, 40 MBH, 70% Efficient, Gas Fired Domestic Water Heater (A. O. Smith GAHH-50).....	2,404.59	225.62
22 34 30 13-0014	EA 100 Gallon, 100 MBH, 96% Efficient, Gas Fired Domestic Water Heater (A. O. Smith GDHE-50).....	4,848.31	167.13

22 34 30 16 Residential, Direct-Vent, Gas Domestic Water Heaters (22 34 30)

22 34 30 16-0001	Direct-Vent, Gas Domestic Water Heaters (A.O. Smith ProMax) (22 34 30 16) Note: Includes glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.		
22 34 30 16-0002	EA 40 Gallon, Direct-Vent, Gas Domestic Water Heater (A. O. Smith GDV-40).....	2,982.51	220.05
22 34 30 16-0003	EA 50 Gallon, Direct-Vent, Gas Domestic Water Heater (A. O. Smith GDV-50).....	3,411.60	225.62
22 34 30 16-0004	EA 75 Gallon, Direct-Vent, Gas Domestic Water Heater (A. O. Smith GDV-75).....	4,465.99	231.19

22 34 30 19 Residential, Power-Vent, Gas Domestic Water Heaters (22 34 30)

22 34 30 19-0001	Power-Vent, Gas Domestic Water Heaters (A.O. Smith ProMax) (22 34 30 19) Note: Includes glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.		
22 34 30 19-0002	EA 40 Gallon, Power-Vent, Gas Domestic Water Heater (A. O. Smith GPVH-40).....	2,700.23	220.05
22 34 30 19-0003	EA 50 Gallon, Power-Vent, Gas Domestic Water Heater (A. O. Smith GPVH-50).....	2,814.36	225.62

22 34 36 Commercial Gas Domestic Water Heaters (22 34)

22 34 36 13 Commercial, Atmospheric, Gas Domestic Water Heaters (22 34 36)

22 Plumbing**22 30 Plumbing Equipment****22 34 Fuel-Fired Domestic Water Heaters**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 34 36 13-0001**Gas Fired Commercial Water Heaters (A.O. Smith BTR)** (22 34 36 13)

Note: Includes automatic flue damper, glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.

22 34 36 13-0002	EA	120 MBH Input, 71 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-120)	6,763.43	334.26
22 34 36 13-0003	EA	154 MBH Input, 81 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-154)	7,212.64	389.96
22 34 36 13-0004	EA	180 MBH Input, 81 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-180)	8,932.17	445.68
22 34 36 13-0005	EA	199 MBH Input, 81 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-199)	7,713.23	445.68
22 34 36 13-0006	EA	199 MBH Input, 100 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-200)	8,882.38	445.68
22 34 36 13-0007	EA	199 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-200A)	11,867.78	490.25
22 34 36 13-0008	EA	250 MBH Input, 100 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-250)	8,586.87	501.38
22 34 36 13-0009	EA	250 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-250A)	12,778.35	551.52
22 34 36 13-0010	EA	251 MBH Input, 65 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-251)	8,721.95	501.38
22 34 36 13-0011	EA	251 MBH Input, 65 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-251A)	12,183.32	551.52
22 34 36 13-0012	EA	275 MBH Input, 100 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-275)	9,652.38	612.81
22 34 36 13-0013	EA	275 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-275A)	13,312.95	674.08
22 34 36 13-0014	EA	305 MBH Input, 65 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-305)	10,874.60	612.81
22 34 36 13-0015	EA	305 MBH Input, 65 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-305A)	13,393.36	674.08
22 34 36 13-0016	EA	365 MBH Input, 85 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-365)	10,503.64	668.51
22 34 36 13-0017	EA	365 MBH Input, 85 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-365A)	14,786.38	735.36
22 34 36 13-0018	EA	390 MBH Input, 100 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-400)	13,382.22	668.51
22 34 36 13-0019	EA	390 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-400A)	17,552.45	735.36
22 34 36 13-0020	EA	500 MBH Input, 85 Gallon, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-500)	17,481.91	724.22
22 34 36 13-0021	EA	150 MBH Input, 32 Gallon, Booster Type, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-151)	8,724.27	389.96
22 34 36 13-0022	EA	150 MBH Input, 32 Gallon, ASME Rated Tank, Booster Type, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-151A)	10,474.76	428.96
22 34 36 13-0023	EA	199 MBH Input, 32 Gallon, Booster Type, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-201)	9,060.82	445.68
22 34 36 13-0024	EA	199 MBH Input, 32 Gallon, ASME Rated Tank, Booster Type, 80% Efficiency, Gas Fired Commercial Water Heater (A.O. Smith BTR-201A)	10,870.71	490.25
22 34 36 13-0025	EA	Sidewall Power Vent System For BTR-120 through BTR-200	2,165.19	278.55
22 34 36 13-0026	EA	Sidewall Power Vent System For BTR-250 through BTR-500	2,374.25	278.55

22 34 36 13-0027**Removal And Reinstallation Of Water Heater** (22 34 36 13)

Note: Includes storage and cleaning.

22 34 36 13-0028	EA	Removal And Reinstallation Of Water Heater Gas Fired, Up To 86 Gallon	506.45	
22 34 36 13-0029	EA	Removal And Reinstallation Of Water Heater Gas Fired, 87 Gallon To 200 Gallon	1,339.17	

22 34 36 19**Commercial, Power-Vent, Gas Domestic Water Heaters** (22 34 36)**22 34 36 19-0001****Induced Draft Blower Gas Fired Commercial Water Heaters (A.O. Smith BTN)** (22 34 36 19)

Note: Includes glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.

22 34 36 19-0002	EA	90 MBH Input, 98 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-100)	5,492.97	334.26
22 34 36 19-0003	EA	120 MBH Input, 71 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-120)	7,889.16	334.26
22 34 36 19-0004	EA	154 MBH Input, 81 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-154)	9,624.85	389.96
22 34 36 19-0005	EA	180 MBH Input, 99 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-180)	10,009.65	445.68
22 34 36 19-0006	EA	199 MBH Input, 99 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-199)	10,057.90	445.68
22 34 36 19-0007	EA	199 MBH Input, 100 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-200)	10,283.04	445.68
22 34 36 19-0008	EA	199 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-200A)	12,076.84	490.25
22 34 36 19-0009	EA	250 MBH Input, 100 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-250)	11,343.29	501.38
22 34 36 19-0010	EA	250 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-250A)	13,968.40	551.52
22 34 36 19-0011	EA	275 MBH Input, 100 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-275)	11,871.67	612.81
22 34 36 19-0012	EA	275 MBH Input, 100 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-275A)	14,567.33	674.08
22 34 36 19-0013	EA	310 MBH Input, 85 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-310)	12,128.98	612.81
22 34 36 19-0014	EA	310 MBH Input, 85 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-310A)	14,728.15	674.08
22 34 36 19-0015	EA	366 MBH Input, 85 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-366)	13,607.36	668.51
22 34 36 19-0016	EA	366 MBH Input, 85 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-366A)	16,008.60	735.36
22 34 36 19-0017	EA	390 MBH Input, 85 Gallon, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-400)	16,518.17	668.51
22 34 36 19-0018	EA	390 MBH Input, 85 Gallon, ASME Rated Tank, 80% Efficiency, Induced Draft Blower, Gas Fired Commercial Water Heater (BTN-400A)	19,064.14	735.36



Plumbing		22
Plumbing Equipment		22 30
Fuel-Fired Domestic Water Heaters		22 34

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 34 36 19-0019			Condensing Gas Fired Commercial Water Heaters (A.O. Smith BTX And BTH) (22 34 36 19) Note: Includes glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.		
22 34 36 19-0020	EA		76 MBH Input, 50 Gallon, 90% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTX-80)	4,238.59	334.26
22 34 36 19-0021	EA		100 MBH Input, 50 Gallon, 90% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTX-100)	5,718.11	334.26
22 34 36 19-0022	EA		120 MBH Input, 60 Gallon, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-120)	6,940.33	334.26
22 34 36 19-0023	EA		120 MBH Input, 60 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-120A)	10,030.56	367.68
22 34 36 19-0024	EA		150 MBH Input, 100 Gallon, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-150)	10,268.12	389.96
22 34 36 19-0025	EA		150 MBH Input, 100 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-150A)	12,967.44	428.96
22 34 36 19-0026	EA		199 MBH Input, 100 Gallon, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-199)	10,411.70	445.68
22 34 36 19-0027	EA		199 MBH Input, 100 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-199A)	13,347.30	490.25
22 34 36 19-0028	EA		250 MBH Input, 100 Gallon, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-250)	12,034.80	501.38
22 34 36 19-0029	EA		250 MBH Input, 100 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-250A)	14,659.92	551.52
22 34 36 19-0030	EA		300 MBH Input, 119 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-300A)	19,198.89	674.08
22 34 36 19-0031	EA		399.9 MBH Input, 119 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-400A)	20,173.78	735.36
22 34 36 19-0032	EA		499.9 MBH Input, 119 Gallon, ASME Rated Tank, 95% Efficiency, Power-Vent, Condensing Gas Fired Commercial Water Heater (BTH-500A)	23,223.23	796.64
22 34 36 23			Commercial, High-Efficiency, Gas Domestic Water Heaters (22 34 36)		
22 34 36 23-0001			Gas Fired Domestic Hot Water Skid Package (Laars Mighty Therm) (22 34 36 23) Note: Includes (2) Laars Mighty Therm boilers, (2) B&G boiler primary pumps (one per boiler), T&P valve, circuit setter, storage tank (sized for 10 minutes buffer based on 50 degree city water supply, and operating set point for the tank at 130 degrees storage), and all necessary accessories for system monitoring such as gauges and thermometers. UL listed and labeled. Excludes piping insulation or seismic calculations.		
22 34 36 23-0002	EA		400 MBH x 2, Gas Fired Domestic Hot Water Skid Package (FlowTherm Systems FTDW-400)	94,912.78	1,506.45
22 34 36 23-0003	EA		1,000 MBH x 2, Gas Fired Domestic Hot Water Skid Package (FlowTherm Systems FTDW-1000)	114,888.13	1,600.60
22 34 36 23-0004	EA		2,000 MBH x 2, Gas Fired Domestic Hot Water Skid Package (FlowTherm Systems FTDW-2000)	139,741.99	1,694.76
22 34 36 23-0005	EA		3,000 MBH x 2, Gas Fired Domestic Hot Water Skid Package (FlowTherm Systems FTDW-3000)	167,194.49	1,788.91
22 34 36 23-0006	EA		4,000 MBH x 2, Gas Fired Domestic Hot Water Skid Package (FlowTherm Systems FTDW-4000)	175,242.68	1,883.06
22 34 36 23-0007			Gas Fired Volume Water Heater (Laars Mighty Therm) (22 34 36 23)		
22 34 36 23-0008	EA		200 MBH Gas Fired Volume Water Heater (Laars MT2V0200)	11,606.53	821.31
22 34 36 23-0009	EA		300 MBH Gas Fired Volume Water Heater (Laars MT2V0300)	12,580.26	923.97
22 34 36 23-0010	EA		400 MBH Gas Fired Volume Water Heater (Laars MT2V0400)	14,544.61	1,129.30
22 34 36 23-0011	EA		500 MBH Gas Fired Volume Water Heater (Laars MT2V0500)	21,348.93	1,231.96
22 34 36 23-0012	EA		750 MBH Gas Fired Volume Water Heater (Laars MT2V0750)	23,450.49	1,437.28
22 34 36 23-0013	EA		1,000 MBH Gas Fired Volume Water Heater (Laars MT2V1000)	26,824.98	1,642.61
22 34 36 23-0014	EA		1,250 MBH Gas Fired Volume Water Heater (Laars MT2V1250)	29,621.07	1,847.94
22 34 36 23-0015	EA		1,500 MBH Gas Fired Volume Water Heater (Laars MT2V1500)	35,471.77	2,053.27
22 34 36 23-0016	EA		1,750 MBH Gas Fired Volume Water Heater (Laars MT2V1750)	36,798.03	2,155.92
22 34 36 23-0017	EA		2,000 MBH Gas Fired Volume Water Heater (Laars MT2V2000)	39,496.45	2,258.59
22 34 36 26			Commercial, Coil-Type, Finned-Tube, Gas Domestic Water Heaters (22 34 36)		
22 34 36 26-0001			Laars Rheos+ 90% Efficient, Gas Fired, Copper Fin Tube Condensing Water Heaters (22 34 36 26)		
22 34 36 26-0002	EA		1,200 MBH 90% Efficient, Gas Fired, Copper Fin Tube Condensing Water Heater (Laars Rheos+)	36,285.95	1,560.48
22 34 36 26-0003	EA		1,600 MBH 90% Efficient, Gas Fired, Copper Fin Tube Condensing Water Heater (Laars Rheos+)	51,380.69	1,724.74
22 34 36 26-0004	EA		2,000 MBH 90% Efficient, Gas Fired, Copper Fin Tube Condensing Water Heater (Laars Rheos+)	55,770.13	1,806.87
22 34 36 26-0005	EA		2,400 MBH 90% Efficient, Gas Fired, Copper Fin Tube Condensing Water Heater (Laars Rheos+)	60,401.43	1,971.13
22 34 36 26-0006			Laars Rheos 86% Efficient Gas Fired, Copper Fin Tube LoNox Water Heaters (22 34 36 26)		
22 34 36 26-0007	EA		1,200 MBH 86% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Rheos)	32,132.02	1,560.48
22 34 36 26-0008	EA		1,600 MBH 86% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Rheos)	35,497.28	1,724.74
22 34 36 26-0009	EA		2,000 MBH 86% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Rheos)	38,827.19	1,806.87
22 34 36 26-0010	EA		2,400 MBH 86% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Rheos)	42,182.92	1,971.13
22 34 36 26-0011			Laars Pennant 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heaters (22 34 36 26)		
22 34 36 26-0012	EA		200 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	8,162.23	739.18
22 34 36 26-0013	EA		300 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	8,977.54	821.31

22 Plumbing**22 30 Plumbing Equipment****22 34 Fuel-Fired Domestic Water Heaters**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 34 36 26-0014 EA 400 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	10,538.27	985.56
22 34 36 26-0015 EA 500 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	14,956.88	1,026.63
22 34 36 26-0016 EA 750 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	16,451.88	1,231.96
22 34 36 26-0017 EA 1,000 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	20,300.47	1,478.35
22 34 36 26-0018 EA 1,250 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	23,107.75	1,560.48
22 34 36 26-0019 EA 1,500 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	25,625.35	1,683.68
22 34 36 26-0020 EA 1,750 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	27,991.04	1,765.81
22 34 36 26-0021 EA 2,000 MBH 85% Efficient, Gas Fired, Copper Fin Tube LoNox Water Heater (Laars Pennant)	30,065.03	1,806.87
22 34 36 26-0022 Patterson Kelley Thermifire Sealed Combustion, Gas Fired, Copper Fin Tube Water Heaters (22 34 36 26)		
22 34 36 26-0023 EA 700 MBH 85% Efficient, Sealed Combustion, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Thermifire).....	23,419.68	1,231.96
22 34 36 26-0024 EA 1,000 MBH 85% Efficient, Sealed Combustion, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Thermifire).....	25,801.76	1,478.35
22 34 36 26-0025 EA 1,500 MBH 85% Efficient, Sealed Combustion, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Thermifire).....	30,904.33	1,683.68
22 34 36 26-0026 EA 1,700 MBH 85% Efficient, Sealed Combustion, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Thermifire).....	31,850.69	1,765.81
22 34 36 26-0027 EA 2,000 MBH 85% Efficient, Sealed Combustion, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Thermifire).....	33,324.63	1,806.87
22 34 36 26-0028 Patterson Kelley Modufire Forced Draft, Water, Gas Fired, Copper Fin Tube Water Heaters (22 34 36 26)		
22 34 36 26-0029 EA 1,000 MBH 85% Efficient, Forced Draft, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Modufire)	28,167.68	1,478.35
22 34 36 26-0030 EA 1,500 MBH 85% Efficient, Forced Draft, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Modufire)	34,043.76	1,683.68
22 34 36 26-0031 EA 2,000 MBH 85% Efficient, Forced Draft, Gas Fired, Copper Fin Tube Water Heater (Patterson Kelley Modufire)	36,133.41	1,806.87
22 34 46 Oil-Fired Domestic Water Heaters (22 34)		
22 34 46 11 Standard-capacity, Oil-Fired Domestic Water Heaters (22 34 46)		
22 34 46 11-0001 Oil-Fired Domestic Water Heaters (Bock) (22 34 46 11)		
Note: Includes burner, glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.		
22 34 46 11-0002 EA 60 MBH, 20 Gallon, Oil-Fired Domestic Water Heater (Bock 20E)	2,218.93	171.58
22 34 46 11-0003 EA 104 MBH, 32 Gallon, Oil-Fired Domestic Water Heater (Bock 32E)	2,187.49	171.58
22 34 46 11-0004 EA 104 MBH, 33 Gallon, Oil-Fired Domestic Water Heater (Bock 33ES)	2,288.50	171.58
22 34 46 11-0005 EA 125 MBH, 40 Gallon, Oil-Fired Domestic Water Heater (Bock 40E)	2,420.01	176.04
22 34 46 11-0006 EA 140 MBH, 50 Gallon, Oil-Fired Domestic Water Heater (Bock 50ES)	3,107.74	180.49
22 34 46 11-0007 EA 152 MBH, 50 Gallon, Oil-Fired Domestic Water Heater (Bock 51E)	2,608.25	180.49
22 34 46 11-0008 Oil Fired Commercial Water Heaters (22 34 46 11)		
Note: Includes burner, glass lined tank, drain valve, temperature and pressure relief valve and vent connection. Excludes vent.		
22 34 46 11-0009 EA 173 MBH, 88 Gallon, Oil-Fired Commercial Water Heater (Bock 71E)	3,603.49	267.40
22 34 46 11-0010 EA 199 MBH, 67 Gallon, Oil-Fired Commercial Water Heater (Bock 72E)	4,261.09	267.40
22 34 46 11-0011 EA 242 MBH, 67 Gallon, Oil-Fired Commercial Water Heater (Bock 73E)	4,286.38	267.40
22 34 46 11-0012 EA 190 MBH, 113 Gallon, Oil-Fired Commercial Water Heater (Bock 120E)	6,191.67	356.53
22 34 46 11-0013 EA 415 MBH, 91 Gallon, Oil-Fired Commercial Water Heater (Bock 361E)	8,520.72	445.68
22 34 46 11-0014 EA 623 MBH, 83 Gallon, Oil-Fired Commercial Water Heater (Bock 541E)	10,769.97	490.25
22 35 Domestic Water Heat Exchangers (22 30)		
22 35 23 Circulating, Domestic Water Heat Exchangers (22 35)		
22 35 23 13 Circulating, Compact Domestic Water Heat Exchangers (22 35 23)		
22 35 23 13-0001 Steam Driven Water Heaters (22 35 23 13)		
22 35 23 13-0002 Constant Flow (22 35 23 13-0001)		
22 35 23 13-0003 EA 30 GPM, 700 LB/Hour Steam Water Heater, Constant Flow	6,234.68	557.09
22 35 23 13-0004 EA 90 GPM, 1,250 LB/Hour Steam Water Heater, Constant Flow	7,786.82	682.66
22 35 23 13-0005 EA 140 GPM, 2,500 LB/Hour Steam Water Heater, Constant Flow	9,978.36	892.80
22 35 23 13-0006 EA 230 GPM, 5,000 LB/Hour Steam Water Heater, Constant Flow	13,503.02	1,243.54
22 35 23 13-0007 EA 500 GPM, 7,500 LB/Hour Steam Water Heater, Constant Flow	19,928.32	2,048.10
22 35 23 13-0008 EA 900 GPM, 10,000 LB/Hour Steam Water Heater, Constant Flow	21,720.02	2,321.18
22 35 23 13-0009 EA 1,400 GPM, 15,000 LB/Hour Steam Water Heater, Constant Flow	28,495.80	2,678.28
22 35 23 13-0010 EA 2,400 GPM, 20,000 LB/Hour Steam Water Heater, Constant Flow	34,285.80	3,165.29
22 35 23 13-0011 Variable Flow (22 35 23 13-0001)		
22 35 23 13-0012 EA 30 GPM, 700 LB/Hour Steam Water Heater, Variable Flow	9,396.81	1,086.33
22 35 23 13-0013 EA 90 GPM, 1,250 LB/Hour Steam Water Heater, Variable Flow	10,651.88	1,326.44
22 35 23 13-0014 EA 140 GPM, 2,500 LB/Hour Steam Water Heater, Variable Flow	13,588.35	1,715.17
22 35 23 13-0015 EA 230 GPM, 5,000 LB/Hour Steam Water Heater, Variable Flow	17,822.56	2,393.05
22 35 23 13-0016 EA 500 GPM, 7,500 LB/Hour Steam Water Heater, Variable Flow	26,604.10	4,002.15



	Plumbing	22	
	Plumbing Equipment	22 30	22
	Domestic Water Heat Exchangers	22 35	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 35 23 13-0017 EA 900 GPM, 10,000 LB/Hour Steam Water Heater, Variable Flow	32,369.08	4,407.39
22 35 23 13-0018 EA 1,400 GPM, 15,000 LB/Hour Steam Water Heater, Variable Flow	37,496.73	5,158.23
22 35 23 13-0019 EA 2,400 GPM, 20,000 LB/Hour Steam Water Heater, Variable Flow	47,476.64	6,162.56

22 40 Plumbing Fixtures ⁽²²⁾

Note: The following Energy Policy Act Flow Rates Requirements superseded flow rates standards listed in section. Plumbing fixtures and trim should not exceed the maximum flow rates set forth in The Energy Policy Act 92. lavatory faucets - 2.5 gal/min, lavatory replacement aerators - 2.5 gal/min, kitchen faucets - 2.5 gal/min, kitchen replacement aerators - 2.5 gal/min, metering faucets - 0.25 gal/cycle, gravity tank-type toilets - 1.6 gal/flush, flushometer tank toilets - 1.6 gal/flush, electromechanical hydraulic toilets - 1.6 gal/flush, blowdown toilets - 3.5 gal/flush, urinals - 1.0 gal/flush.

22 41 Residential Plumbing Fixtures ^(22 40)

22 41 26 Residential Disposers ^(22 41)

22 41 26 00-0001 Disposals ^(22 41 26)

22 41 26 00-0002 EA 1/3 HP Insulated Garbage Disposal.....	285.39	72.92
22 41 26 00-0003 EA 1/2 HP Insulated Garbage Disposal.....	325.85	72.92
22 41 26 00-0004 EA 3/4 HP Insulated Garbage Disposal.....	426.99	72.92
22 41 26 00-0005 EA 1 HP Insulated Garbage Disposal.....	528.13	72.92

22 41 39 Residential Faucets, Supplies, and Trim ^(22 41)

22 41 39 00-0001 Residential Kitchen Faucets ^(22 41 39)

22 41 39 00-0002 EA Chrome Single Handle Kitchen Faucet (Delta 100LF-WF)	200.36	51.30
22 41 39 00-0003 EA Chrome Single Handle Kitchen Faucet With Spray (Delta 400LF-WF).....	232.21	51.30
22 41 39 00-0004 EA Chrome Single Handle Kitchen Faucet With Integrated Spray (Delta 300LF-WF).....	232.21	51.30
22 41 39 00-0005 EA Chrome Two Handle Kitchen Faucet, Three Hole Installation 8"Center (Delta 2102LF-LHP+H215).....	223.42	51.30
22 41 39 00-0006 EA Chrome Two Handle Kitchen Faucet With Spray, Three Hole Installation, 8" Center (Delta 2402LF-LHP+H215)	240.53	51.30

22 41 39 00-0007 Residential Lavatory Faucets ^(22 41 39)

22 41 39 00-0008 EA Chrome, Single Acrylic Handle, Bath Faucet (Delta 502-DST)	183.97	36.94
For Faucet With Brass Pop-Up, Add	11.00	
22 41 39 00-0009 EA Chrome, Single Lever Handle, Lavatory Faucet (Delta 500-WF)	183.97	36.94
For Faucet With Brass Pop-Up, Add	11.00	
22 41 39 00-0010 EA Chrome, Two Handle, Bath Faucet With Acrylic Handles (Delta 2502LF).....	131.58	36.94
For Faucet With Brass Pop-Up, Add	16.50	
For Faucet With Plastic Pop-Up, Add	14.00	

22 41 39 00-0011 Residential Bath And Shower Faucets ^(22 41 39)

22 41 39 00-0012 EA Single Lever Handle, Chrome Shower Only, Pressure Balanced/Anti-Scald Valve (American Standard T675.501)	239.86	44.53
For Faucet With Polished Nickel Or Brass Finish, Add	25.00	
22 41 39 00-0013 EA Single Lever Handle, Chrome Bath And Shower, Pressure Balanced/Anti-Scald Valve (American Standard T675.502).....	283.43	44.53
For Faucet With Polished Nickel Or Brass Finish, Add	25.00	
22 41 39 00-0014 EA Two-Knob Handle Chrome Shower And Tub Filler, Ceramic Valving (American Standard Cadet 3275).....	220.87	44.53
For Faucet With Polished Nickel Or Brass Finish, Add	75.00	
For Faucet With Lever Handles, Add	8.10	
22 41 39 00-0015 EA Three-Knob Handle Chrome Shower And Tub Filler, Ceramic Valving (American Standard Cadet 3375).....	244.33	44.53
For Faucet With Polished Nickel Or Brass Finish, Add	75.00	
For Faucet With Lever Handles, Add	8.10	
22 41 39 00-0016 EA Hand Shower With Hose And 25" Slide Bar (American Standard 1662.602).....	273.56	27.86
22 41 39 00-0017 EA Wall Mount, Hand Shower With Hose (Delta 55011).....	226.90	27.86
22 41 39 00-0018 EA Wall Mount, Hand Shower Unit With Hose (Delta Faucet 62001 DS).....	311.70	27.86

22 41 39 00-0019 Residential Laundry Faucets ^(22 41 39)

22 41 39 00-0020 EA Stream Straightener Nozzle Chrome Laundry Faucet, Lever Handles, 4" Center (Delta 2123LF)	158.10	32.75

22 41 39 00-0021 Residential Laundry/Wash Basin Faucets ^(22 41 39)

22 41 39 00-0022 EA Hose Thread Spout Chrome Laundry Faucet, Lever Handles, 4" Center (Delta 2121LF)	159.42	32.75
22 41 39 00-0023 EA Hose Thread Spout With Vacuum Breaker Chrome Laundry Faucet, Lever Handles, 4" Center (Delta 2121LF+RP12503)	228.97	36.10

22 41 39 00-0024 Other Residential Faucets ^(22 41 39)

22 41 39 00-0025 EA Silcock, Compact, Brass, IPS Or Copper To Hose	42.57	8.36

22 42 Commercial Plumbing Fixtures ^(22 40)

Note: Prices are for commercial grade unless otherwise indicated. Includes final connection and all associated trim (seat, supply stop and line, wax seal, valve). Excludes rough-in within the wall and carrier.

22 42 13 Commercial Water Closets, Urinals, and Bidets ^(22 42)

22 42 13 13 Commercial Water Closets ^(22 42 13)

22 Plumbing**22 40 Plumbing Fixtures****22 42 Commercial Plumbing Fixtures**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT UNIT COST DEMOLITION UNIT COST

22 42 13 13-0001		Vitreous China Water Closets (22 42 13 13)		
		Note: With a 2" ball pass.		
22 42 13 13-0002		Floor Mounted Elongated Vitreous China Water Closets (22 42 13 13-0001)		
		Note: Includes wax seal and toilet seat. Excludes flush valve.		
22 42 13 13-0003	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet (American Standard Madera™)	640.89	106.71
22 42 13 13-0004	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Wall Outlet, Elongated Vitreous China Water Closet (American Standard Priolo™)	756.15	106.71
22 42 13 13-0005	EA	2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Wall Outlet, Elongated Vitreous China Water Closet (American Standard Yorkville™)	966.14	106.71
22 42 13 13-0006	EA	2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet (American Standard Cadet®)	868.76	106.71
22 42 13 13-0007	EA	1 Piece Tank Type, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet (American Standard Compact Cadet®)	813.78	106.71
22 42 13 13-0008	EA	2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet With Concealed Trapway (American Standard Cadet® 3 FloWise® RIGHT HEIGHT®)	817.56	106.71
22 42 13 13-0009	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet (Kohler® Wellcome™)	632.45	106.71
22 42 13 13-0010	EA	1.28 GPF Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Elongated Vitreous China Water Closet (Toto® CT705E)	674.89	106.71
22 42 13 13-0011		Wall Hung Elongated Vitreous China Water Closets (22 42 13 13-0001)		
		Note: Includes wax seal and toilet seat. Excludes flush valve.		
22 42 13 13-0012	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Afwall®)	738.67	131.34
22 42 13 13-0013	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Afwall® ADA Retrofit)	906.48	131.34
22 42 13 13-0014	EA	2 Piece Tank Type, Pressure Assisted, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Glenwall™)	1,134.35	131.34
22 42 13 13-0015	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Kohler® Kingston™)	741.59	131.34
22 42 13 13-0016	EA	Flush Valve Type, Blow Out, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Kohler® Stratton™)	1,103.35	131.34
22 42 13 13-0017	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Toto® CT708E Or CT708EV)	815.53	131.34
22 42 13 13-0018	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Zurn Z5615-BWL)	700.44	131.34
22 42 13 13-0019	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Sloan ST-2459)	733.79	131.34
22 42 13 13-0020		Floor Mounted Elongated Handicapped Water Closets (22 42 13 13-0001)		
		Note: Includes wax seal and toilet seat. Excludes flush valve.		
22 42 13 13-0021	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Madera™ ADA)	649.19	106.71
22 42 13 13-0022	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Colorado Right Height®)	663.77	106.71
22 42 13 13-0023	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Right Width™ Right Height®)	728.02	106.71
22 42 13 13-0024	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Huron)	807.51	106.71
22 42 13 13-0025	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Priolo® ADA)	804.20	106.71
22 42 13 13-0026	EA	2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Back Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Yorkville™ ADA)	1,057.90	106.71
22 42 13 13-0027	EA	2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Cadet Right Height™ ADA)	898.92	106.71
22 42 13 13-0028	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Toto® CT705ELN)	714.65	106.71
22 42 13 13-0029	EA	2 Piece Tank Type, High Efficiency Water Closet Floor Mounted, Elongated, (Sterling 402077) With Open-Front Seat (Kohler K-4650)	817.31	106.71
22 42 13 13-0030	EA	2 Piece Tank Type, Pressure Assisted, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Kohler Highline™ ADA K-3519)	918.89	106.71
22 42 13 13-0031	EA	2 Piece Tank Type, Dual-Flush 1.1 And 1.6 GPF, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Vortens Vienna ELX-DF 3113-3436)	725.95	106.71
22 42 13 13-0032	EA	2 Piece Tank Type, High Efficiency Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Niagara Stealth™)	708.08	106.71
22 42 13 13-0033	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Zurn HET Z5667-BWL)	681.21	106.71
22 42 13 13-0034		Floor Mounted, 10" High Bowl, Children's Height Vitreous China Water Closets (22 42 13 13-0001)		
		Note: Includes wax seal and toilet seat. Excludes flush valve.		
22 42 13 13-0035	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, 10" High Bowl, Children's Height, Elongated Vitreous China Water Closet (Kohler® Primary™)	722.86	106.71
22 42 13 13-0036	EA	Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, 10" High Bowl, Children's Height, Round Front Vitreous China Water Closet (American Standard Baby Devoro™)	656.47	106.71
22 42 13 13-0037	EA	2 Piece Tank Type, Siphon Jet, Floor Mounted, Floor Outlet, 10" High Bowl, Children's Height, Round Front Vitreous China Water Closet (American Standard Baby Devoro™)	759.82	106.71



Plumbing			22
Plumbing Fixtures			22 40
Commercial Plumbing Fixtures			22 42

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 13 13-0038			Floor Mounted Round Bowl Vitreous China Water Closets (22 42 13 13-0001)		
22 42 13 13-0039	EA		2 Piece Tank Type, Floor Mounted, Floor Outlet, Round Vitreous China Water Closet (Toto® CST715) With SoftClose® Seat (Toto® SS113).....	683.57	106.71
22 42 13 13-0040	EA		2 Piece Tank Type, Dual Flush, Floor Mounted, Floor Outlet, Round Vitreous China Water Closet (Vortens 3208-3412).....	714.17	106.71
22 42 13 13-0041			Stainless Steel Water Closets (22 42 13 13)		
22 42 13 13-0042	EA		Wall Hung Water Closet, Stainless Steel With Hinged Seat, Siphon Jet (Acorn 2105-T-1-HS).....	3,143.37	230.86
22 42 13 13-0043	EA		Floor Mounted Water Closet, Stainless Steel With Hinged Seat, Siphon Jet (Acorn 2120-T-3-HS).....	3,309.57	230.86
22 42 13 13-0044			Water Closet Carriers (22 42 13 13)		
22 42 13 13-0045			Pipe Grip Adaptor Type, Water Closet Carriers (22 42 13 13-0044) Note: Includes coated cast iron construction, plated hardware and adjustable feet. Excludes waste piping and fittings.		
22 42 13 13-0046	EA		Pipe Grip Adaptor Type, Water Closet Carrier.....	573.25	54.17
22 42 13 13-0047			No-Hub, Water Closet Carriers (22 42 13 13-0044) Note: Includes coated cast iron construction, ABS extension with integral test cap, plated hardware and neoprene fixture gasket. Includes buttress feet or pylon feet and anchor foot.		
22 42 13 13-0048	EA		Vertical Close With Offset, No-Hub, Single Water Closet Carrier.....	892.34	54.17
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct.....	-78.30	
			For Positioning Frame, Add.....	50.29	
			For Supply Pipe Support, Add.....	51.46	
			For Vandal Proof Trim, Add.....	66.63	
			For Auxiliary Inlet, Add.....	218.68	
			For Special Duty 500 LB Carrier, Add.....	371.68	
22 42 13 13-0049	EA		Vertical Close On Stack, No-Hub, Single Water Closet Carrier.....	892.34	54.17
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct.....	-78.30	
			For Positioning Frame, Add.....	50.29	
			For Supply Pipe Support, Add.....	51.46	
			For Vandal Proof Trim, Add.....	66.63	
			For Auxiliary Inlet, Add.....	218.68	
			For Special Duty 500 LB Carrier, Add.....	371.68	
22 42 13 13-0050	EA		Horizontal Adjustable, No-Hub, Single Water Closet Carrier.....	975.32	54.17
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct.....	-78.30	
			For Positioning Frame, Add.....	50.29	
			For Supply Pipe Support, Add.....	51.46	
			For Vandal Proof Trim, Add.....	66.63	
			For Auxiliary Inlet, Add.....	218.68	
			For Horizontal No Hub Cast Long Barrel, Add.....	225.64	
			For Carrier For Wide Chase Installations, Add.....	295.87	
			For Special Duty 1,000 LB Carrier, Add.....	371.69	
22 42 13 13-0051	EA		Vertical Adjustable On Stack, No-Hub, Single Water Closet Carrier.....	1,081.68	54.17
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct.....	-78.30	
			For Positioning Frame, Add.....	50.29	
			For Supply Pipe Support, Add.....	51.46	
			For Vandal Proof Trim, Add.....	66.63	
			For 4" Branch, Add.....	173.05	
			For Auxiliary Inlet, Add.....	218.68	
			For Carrier For Wide Chase Installations, Add.....	295.87	
			For Double 4" Branches, Add.....	347.24	
			For Special Duty 1,000 LB Carrier, Add.....	371.69	
22 42 13 13-0052	EA		Vertical Close With Offset, No-Hub, Double Water Closet (Back To Back) Carrier.....	1,487.06	79.51
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct.....	-156.59	
			For Positioning Frame, Add.....	108.27	
			For Supply Pipe Support, Add.....	110.61	
			For Vandal Proof Trim, Add.....	133.26	
			For Auxiliary Inlet, Add.....	234.07	
			For Special Duty 500 LB Carrier, Add.....	743.35	
22 42 13 13-0053	EA		Vertical Close On Stack, No-Hub, Double Water Closet (Back To Back) Carrier.....	1,529.15	79.51
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct.....	-156.59	
			For Positioning Frame, Add.....	108.27	
			For Supply Pipe Support, Add.....	110.61	
			For Vandal Proof Trim, Add.....	133.26	
			For Auxiliary Inlet, Add.....	234.07	
			For Special Duty 500 LB Carrier, Add.....	743.35	
22 42 13 13-0054	EA		Vertical Adjustable On Stack, No-Hub, Double Water Closet (Back To Back) Carrier.....	1,864.59	79.51
			For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct.....	-156.59	
			For Positioning Frame, Add.....	108.27	
			For Supply Pipe Support, Add.....	110.61	
			For Vandal Proof Trim, Add.....	133.26	
			For 4" Branch, Add.....	180.74	
			For Auxiliary Inlet, Add.....	234.07	
			For Double 4" Branches, Add.....	362.63	
			For Carrier For Wide Chase Installations, Add.....	637.92	
			For Special Duty 1,000 LB Carrier, Add.....	743.37	

22 Plumbing**22 40 Plumbing Fixtures****22 42 Commercial Plumbing Fixtures**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 13 13-0055	EA	Horizontal Adjustable, No-Hub, Double Water Closet (Back To Back) Carrier	1,754.72	79.51
		<i>For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct</i>	-156.59	
		<i>For Positioning Frame, Add</i>	108.27	
		<i>For Supply Pipe Support, Add</i>	110.61	
		<i>For Vandal Proof Trim, Add</i>	133.26	
		<i>For Horizontal No Hub Cast Long Barrel, Add</i>	233.33	
		<i>For Carrier For Wide Chase Installations, Add</i>	637.92	
		<i>For Special Duty 1,000 LB Carrier, Add</i>	743.37	
22 42 13 13-0056		Hub And Spigot, Water Closet Carriers (22 42 13 13-0044)		
		Note: Includes coated cast iron construction, ABS extension with integral test cap, plated hardware and neoprene fixture gasket. Includes buttress feet or pylon feet and anchor foot.		
22 42 13 13-0057	EA	Vertical Close With Offset, Hub And Spigot, Single Water Closet Carrier	1,038.47	54.17
		<i>For Positioning Frame, Add</i>	50.29	
		<i>For Supply Pipe Support, Add</i>	51.46	
		<i>For Vandal Proof Trim, Add</i>	66.63	
		<i>For Hanger Type Closet Adapter, Add</i>	167.14	
		<i>For Auxiliary Inlet, Add</i>	218.68	
22 42 13 13-0058	EA	Vertical Close On Stack, Hub And Spigot, Single Water Closet Carrier	892.34	54.17
		<i>For Positioning Frame, Add</i>	50.29	
		<i>For Supply Pipe Support, Add</i>	51.46	
		<i>For Vandal Proof Trim, Add</i>	66.63	
		<i>For Auxiliary Inlet, Add</i>	218.68	
		<i>For Special Duty 500 LB Carrier, Add</i>	371.68	
22 42 13 13-0059	EA	Vertical Adjustable On Stack, Hub And Spigot, Single Water Closet Carrier	1,121.42	54.17
		<i>For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct</i>	-78.30	
		<i>For Positioning Frame, Add</i>	50.29	
		<i>For Supply Pipe Support, Add</i>	51.46	
		<i>For Vandal Proof Trim, Add</i>	66.63	
		<i>For 4" Branch, Add</i>	173.05	
		<i>For Auxiliary Inlet, Add</i>	218.68	
		<i>For Carrier For Wide Chase Installations, Add</i>	295.87	
		<i>For Double 4" Branches, Add</i>	347.24	
		<i>For Special Duty 1,000 LB Carrier, Add</i>	371.69	
22 42 13 13-0060	EA	Vertical Close With Offset, Hub And Spigot, Double Water Closet (Back To Back) Carrier	1,737.10	79.51
		<i>For Positioning Frame, Add</i>	108.27	
		<i>For Supply Pipe Support, Add</i>	110.61	
		<i>For Vandal Proof Trim, Add</i>	133.26	
		<i>For Auxiliary Inlet, Add</i>	234.07	
		<i>For Hanger Type Closet Adapter, Add</i>	334.28	
22 42 13 13-0061	EA	Vertical Adjustable On Stack, Hub And Spigot, Double Water Closet (Back To Back) Carrier	1,904.33	79.51
		<i>For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct</i>	-156.59	
		<i>For Positioning Frame, Add</i>	108.27	
		<i>For Supply Pipe Support, Add</i>	110.61	
		<i>For Vandal Proof Trim, Add</i>	133.26	
		<i>For 4" Branch, Add</i>	180.74	
		<i>For Auxiliary Inlet, Add</i>	234.07	
		<i>For Double 4" Branches, Add</i>	362.63	
		<i>For Carrier For Wide Chase Installations, Add</i>	637.92	
		<i>For Special Duty 1,000 LB Carrier, Add</i>	743.37	
22 42 13 13-0062		Floor Mount Polyvinyl Chloride (PVC) Adaptor Type, Water Closet Carriers		
		(22 42 13 13-0044)		
		Note: Includes coated cast iron construction, plastic fitting adaptor with extension and plated hardware.		
22 42 13 13-0063	EA	Vertical On Stack, Floor Mount Polyvinyl Chloride (PVC) Adaptor Type, Single Water Closet Carrier	687.79	54.17
		<i>For Positioning Frame, Add</i>	50.29	
		<i>For Supply Pipe Support, Add</i>	51.46	
		<i>For Vandal Proof Trim, Add</i>	66.63	
		<i>For Hanger Type Closet Adapter, Add</i>	167.14	
22 42 13 13-0064		Institutional Water Closet Carriers (22 42 13 13-0044)		
		Note: Includes coated cast iron construction, ABS extension with integral test cap, buttress feet, plated hardware and neoprene fixture gasket.		
22 42 13 13-0065	EA	Vertical On Stack, No-Hub, 90 Degree Institutional, Double Waste Fitting With Vent And Carrier, Water Closet Carrier	2,446.66	79.51
		<i>For Carrier For Floor Mounted, Back Outlet China Bowls, Deduct</i>	-156.59	
		<i>For Positioning Frame, Add</i>	108.27	
		<i>For Supply Pipe Support, Add</i>	110.61	
		<i>For Vandal Proof Trim, Add</i>	133.26	
		<i>For Auxiliary Inlet, Add</i>	234.07	
22 42 13 13-0066		Removal And Reinstallation Of Fixtures And Trim (22 42 13 13)		
		Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		
22 42 13 13-0067	EA	Removal And Reinstallation Of Wall Hung Water Closet With Tank	468.98	
22 42 13 13-0068	EA	Removal And Reinstallation Of Wall Hung Water Closet With Flush Valve	468.98	
22 42 13 13-0069	EA	Removal And Reinstallation Of Floor Mount Water Closet With Tank	360.67	
22 42 13 13-0070	EA	Removal And Reinstallation Of Floor Mount Water Closet With Flush Valve	360.67	

22 42 13 16 Commercial Urinals (22 42 13)



Plumbing			22
Plumbing Fixtures			22 40
Commercial Plumbing Fixtures			22 42

MINOR		TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION		UNIT COST		UNIT COST	
22 42 13 16-0001	Vitreous China Urinals (22 42 13 16) Note: Excludes flush valve unless indicated otherwise.				
22 42 13 16-0002	Wall Hung Urinals (22 42 13 16-0001)				
22 42 13 16-0003	EA	Wall Hung Washout, Vitreous China Urinal (American Standard Maybrook™)	571.86		109.79
22 42 13 16-0004	EA	Wall Hung, Washout, Vitreous China Urinal With Top Spud (American Standard Washbrook®)	697.55		109.79
22 42 13 16-0005	EA	Wall Hung, Washout, Vitreous China Urinal With Back Spud (American Standard Washbrook®)	723.83		109.79
22 42 13 16-0006	EA	Wall Hung, Blowout, Vitreous China Urinal (American Standard Lynbrook™)	762.44		109.79
22 42 13 16-0007	EA	Wall Hung Siphon Jet, Vitreous China Urinal (American Standard Trimbrook™)	695.50		109.79
22 42 13 16-0008	EA	Wall Hung, Siphon Jet, Vitreous China Urinal (American Standard Allbrook™)	589.38		109.79
22 42 13 16-0009	EA	Wall Hung, Washout, Vitreous China Urinal (Toto® UT447E Or UT447EV)	713.96		109.79
22 42 13 16-0010	EA	Wall Hung, Washout, Vitreous China Urinal (Toto® UT104E Or UT104EV)	612.39		109.79
22 42 13 16-0011	EA	Wall Hung, Washout, Vitreous China Urinal (Zum Z5798)	661.75		109.79
22 42 13 16-0012	EA	Wall Hung, Washout, 0.125 To 0.5 GPF, HEU, Vitreous China Urinal (Sloan SU-1009-A)	605.13		109.79
22 42 13 16-0013	EA	Wall Hung, Washout, 1.0 GPF, HEU, Vitreous China Urinal (Sloan SU-1006-A)	602.98		109.79
22 42 13 16-0014	Floor Mounted Urinals (22 42 13 16-0001)				
22 42 13 16-0015	EA	Washout, Floor Mounted, Vitreous China Urinal (American Standard Stallbrook™)	964.06		138.51
22 42 13 16-0016	EA	Washout, Floor Mounted, Vitreous China Urinal (Kohler® Branham™)	1,074.50		138.51
22 42 13 16-0017	EA	Floor Mounted Urinal Seam Cover For 21" Centers (Kohler® K-4931)	309.11		25.66
22 42 13 16-0018	EA	Floor Mounted Urinal Seam Cover For 24" Centers (Kohler® K-4932)	351.08		25.66
22 42 13 16-0019	Waterfree Urinals (22 42 13 16-0001)				
22 42 13 16-0020	EA	Waterfree, Wall Hung, Vitreous China Urinal (American Standard Large FloWise® Flush-Free)	634.24		76.96
		For Colored Fixtures, Add	66.90		
		For >1, Deduct	-43.06		
22 42 13 16-0021	EA	Waterfree, Wall Hung, Vitreous China Urinal (SLOAN WES-1000)	1,204.64		76.96
		For Colored Fixtures, Add	66.90		
		For >1, Deduct	-108.09		
22 42 13 16-0022	EA	Waterfree, Wall Hung, Vitreous China Urinal (Falcon F-2000)	1,036.25		76.96
		For Colored Fixtures, Add	66.90		
		For >1, Deduct	-88.89		
22 42 13 16-0023	EA	Waterfree, Wall Hung, Vitreous China Urinal (Falcon F-4000)	792.64		76.96
		For Colored Fixtures, Add	66.90		
		For >1, Deduct	-61.12		
22 42 13 16-0024	EA	Waterfree, Wall Hung, Vitreous China Urinal (Falcon F-5000)	792.64		76.96
		For Colored Fixtures, Add	66.90		
		For >1, Deduct	-61.12		
22 42 13 16-0025	EA	Waterfree, Wall Hung, Vitreous China Urinal (Falcon F-7000)	984.21		76.96
		For Colored Fixtures, Add	66.90		
		For >1, Deduct	-82.96		
22 42 13 16-0026	EA	Waterfree, Wall Hung, Stainless Steel Urinal (Falcon F-9000)	1,496.03		76.96
		For >1, Deduct	-141.31		
22 42 13 16-0027	Stainless Steel Urinals (22 42 13 16)				
22 42 13 16-0028	EA	Wall Hung Urinal, Stainless Steel, Blowout Jet (Acorn 2160-T-1)	3,236.86		230.86
22 42 13 16-0029	EA	5' Wall Hung Trough Urinal, Stainless Steel With Strainer And Washdown Pipe (Elkay EU6014C)	4,193.03		282.17
22 42 13 16-0030	Urinal Carriers (22 42 13 16)				
22 42 13 16-0031	Floor Mounted, Urinal Carriers (22 42 13 16-0030) Note: Includes adjustable supporting rods, structural uprights and welded feet.				
22 42 13 16-0032	EA	Floor Mounted Hanger Plate Type, Single Urinal Carrier	577.93		38.99
		For Up To 4" Extension Sleeves And Hardware, Add	24.54		
22 42 13 16-0033	EA	Floor Mounted Bearing Plate Type, Single Urinal Carrier	545.64		38.99
		For Up To 4" Extension Sleeves And Hardware, Add	24.54		
22 42 13 16-0034	Wall Mounted, Urinal Carriers (22 42 13 16-0030) Note: Includes wall plate and adjustable supporting rods.				
22 42 13 16-0035	EA	Wall Mounted Hanger Plate Type, Single Urinal Carrier	224.22		38.99
		For Up To 6-1/2" Extension Sleeves And Hardware, Add	24.54		
22 42 13 16-0036	Removal And Reinstallation Of Fixtures And Trim (22 42 13 16) Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.				
22 42 13 16-0037	EA	Removal And Reinstallation Of Wall Hung Urinal With Flush Valve	467.43		
22 42 16	Commercial Lavatories and Sinks (22 42)				
22 42 16 13	Commercial Lavatories (22 42 16)				
22 42 16 13-0001	Lavatories (22 42 16 13) Note: Includes trap, drain and supply valves. Excludes faucets.				
22 42 16 13-0002	Wall Hung Lavatories (22 42 16 13-0001)				
22 42 16 13-0003	EA	19" x 17" Porcelain Enameled Cast Iron Wall Hung Lavatory (American Standard Regalyn™)	596.42		68.74
22 42 16 13-0004	EA	20" x 18" Porcelain Enameled Cast Iron Wall Hung Lavatory (American Standard Regalyn™)	623.22		68.74



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 16 13-0005 EA 22" x 19" Porcelain Enameled Cast Iron Wall Hung Lavatory (Kohler® Hampton™)	773.36	68.74
22 42 16 13-0006 EA 18" x 16" Vitreous China Wall Hung Lavatory (American Standard Penlyn™)	547.54	68.74
22 42 16 13-0007 EA 19" x 17" Vitreous China Wall Hung Lavatory (American Standard Declyn™)	472.65	68.74
22 42 16 13-0008 EA 20" x 18" Vitreous China Wall Hung Lavatory (Kohler® Soho®)	595.98	68.74
22 42 16 13-0009 EA 27" x 20" Wheelchair Accessible, Vitreous China Wall Hung Lavatory (American Standard Wheel Chair Users)	701.27	68.74
22 42 16 13-0010 EA 20" x 18" Vitreous China Wall Hung Lavatory (American Standard Roxalyn™)	560.15	68.74
22 42 16 13-0011 EA 20" x 18" Vitreous China Wall Hung Lavatory (American Standard Lucerne™)	494.72	68.74
22 42 16 13-0012 Countertop Lavatories (22 42 16 13-0001)		
22 42 16 13-0013 EA 20" x 18" Oval Vitreous China Countertop Lavatory (Kohler® Pennington®)	562.56	83.11
22 42 16 13-0014 EA 21" x 18" Vitreous China Countertop Lavatory (American Standard Cadet™ Oval)	574.83	83.11
22 42 16 13-0015 EA 19" x 16" Enameled Cast Iron Countertop Lavatory (Kohler® Farmington™)	608.94	83.11
22 42 16 13-0016 EA 19" x 16" Enameled Cast Iron Countertop Lavatory (Kohler® Ellington™)	645.35	83.11
22 42 16 13-0017 EA 24" x 18" Enameled Cast Iron Countertop Lavatory (Kohler® Thoreau®)	844.02	89.78
22 42 16 13-0018 Undermount Lavatories (22 42 16 13-0001)		
22 42 16 13-0019 EA 15" x 12" Vitreous China Undermount Lavatory (American Standard Ovalyn™)	524.23	83.11
22 42 16 13-0020 EA 17" x 14" Vitreous China Undermount Lavatory (American Standard Ovalyn™)	496.95	83.11
22 42 16 13-0021 EA 19" x 16" Vitreous China Undermount Lavatory (American Standard Ovalyn™)	496.95	83.11
22 42 16 13-0022 EA 21" x 17" Vitreous China Undermount Lavatory (American Standard Ovalyn™)	530.10	83.11
22 42 16 13-0023 EA 15" x 12" Oval Vitreous China Undermount Lavatory (Kohler® Caxton®)	512.23	83.11
22 42 16 13-0024 EA 17" x 14" Oval Vitreous China Undermount Lavatory (Kohler® Caxton®)	507.21	83.11
22 42 16 13-0025 EA 19" x 15" Oval Vitreous China Undermount Lavatory (Kohler® Caxton®)	512.33	83.11
22 42 16 13-0026 EA 18" x 12" Rectangular Vitreous China Undermount Lavatory (Kohler® Ladena®)	625.25	83.11
22 42 16 13-0027 EA 21" x 14" Rectangular Vitreous China Undermount Lavatory (Kohler® Ladena®)	625.25	83.11
22 42 16 13-0028 Pedestal Lavatories (22 42 16 13-0001)		
22 42 16 13-0029 EA 19" x 24" x 35" High Vitreous China Pedestal Sink (American Standard Cadet™)	679.49	197.51
22 42 16 13-0030 Cultured Marble Vanity Tops (22 42 16 13-0001)		
Note: Includes predrilled holes for faucet.		
22 42 16 13-0031 EA 25" x 19" Cultured Marble Vanity Top With Integrated Backsplash And Sink	399.00	76.96
22 42 16 13-0032 EA 31" x 19" Cultured Marble Vanity Top With Integrated Backsplash And Sink	448.59	82.08
22 42 16 13-0033 EA 37" x 19" Cultured Marble Vanity Top With Integrated Backsplash And Sink	538.04	87.21
22 42 16 13-0034 EA 49" x 19" Cultured Marble Vanity Top With Integrated Backsplash And Sink	733.65	92.34
22 42 16 13-0035 EA 25" x 22" Cultured Marble Vanity Top With Integrated Backsplash And Sink	427.98	76.96
22 42 16 13-0036 EA 31" x 22" Cultured Marble Vanity Top With Integrated Backsplash And Sink	456.75	82.08
22 42 16 13-0037 EA 37" x 22" Cultured Marble Vanity Top With Integrated Backsplash And Sink	586.25	87.21
22 42 16 13-0038 EA 43" x 22" Cultured Marble Vanity Top With Integrated Backsplash And Sink	637.80	89.78
22 42 16 13-0039 EA 49" x 22" Cultured Marble Vanity Top With Integrated Backsplash And Sink	713.26	92.34
22 42 16 13-0040 Quartz Vanity Tops (22 42 16 13-0001)		
Note: Includes predrilled holes for faucet.		
22 42 16 13-0041 EA 25" x 22" Quartz Vanity Top With Integrated Backsplash And Sink	838.16	76.96
22 42 16 13-0042 EA 31" x 22" Quartz Vanity Top With Integrated Backsplash And Sink	873.21	82.08
22 42 16 13-0043 EA 37" x 22" Quartz Vanity Top With Integrated Backsplash And Sink	1,001.36	87.21
22 42 16 13-0044 EA 43" x 22" Quartz Vanity Top With Integrated Backsplash And Sink	1,008.19	89.78
22 42 16 13-0045 EA 49" x 22" Quartz Vanity Top With Integrated Backsplash And Sink	1,098.97	92.34
22 42 16 13-0046 EA 61" x 22" Quartz Vanity Top With Integrated Backsplash And Two Sinks	1,467.74	97.47
22 42 16 13-0047 EA 73" x 22" Quartz Vanity Top With Integrated Backsplash And Two Sinks	1,730.37	102.59
22 42 16 13-0048 EA 22" End Splash For Quartz Vanity Tops	46.70	
22 42 16 13-0049 Solid Surface Vanity Tops (22 42 16 13-0001)		
Note: Includes predrilled holes for faucet.		
22 42 16 13-0050 EA 25" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink	704.64	76.96
22 42 16 13-0051 EA 31" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink	789.08	82.08
22 42 16 13-0052 EA 37" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink	884.96	87.21
22 42 16 13-0053 EA 43" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink	972.86	89.78
22 42 16 13-0054 EA 49" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink	1,053.17	92.34
22 42 16 13-0055 EA 55" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink	1,159.16	94.91
22 42 16 13-0056 EA 61" x 22" Solid Surface Vanity Top With Integrated Backsplash And Sink	1,289.30	97.47
22 42 16 13-0057 EA 61" x 22" Solid Surface Vanity Top With Integrated Backsplash And Two Sinks	1,321.72	97.47
22 42 16 13-0058 EA 73" x 22" Solid Surface Vanity Top With Integrated Backsplash And Two Sinks	1,425.20	102.59
22 42 16 13-0059 EA 22" End Splash For Solid Surface Vanity Tops	69.46	
22 42 16 13-0060 Solid Surface Multi-Station Lavatory Systems (22 42 16 13-0001)		
Note: ADA compliant. Includes integral faucets.		
22 42 16 13-0061 EA 2 Station, Solid Surface Multi-Station Lavatory System With Integral Sprayheads And Infrared Controls (Bradley MG-2)	6,779.72	149.66
For Integral Liquid Soap Dispenser, Add	171.00	
For Integral Photovoltaic Power Panels, Add	563.00	



Plumbing			22
Plumbing Fixtures			22 40
Commercial Plumbing Fixtures			22 42

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 16 13-0062	EA		3 Station, Solid Surface Multi-Station Lavatory System With Integral Sprayheads And Infrared Controls (Bradley MG-3)	9,960.51	149.66
			For Integral Liquid Soap Dispenser, Add	171.00	
			For Integral Photovoltaic Power Panels, Add	657.00	
22 42 16 13-0063	EA		12" Length, Solid Surface Countertop Extension (Bradley MG-EXT-12)	451.01	49.89
22 42 16 13-0064	EA		18" Length, Solid Surface Countertop Extension (Bradley MG-EXT-18)	562.06	49.89
22 42 16 13-0065	EA		36" Length, Solid Surface Countertop Extension (Bradley MG-EXT-36)	1,127.65	49.89
22 42 16 13-0066			Stainless Steel Lavatories (22 42 16 13-0001)		
22 42 16 13-0067	EA		18" x 15" Wall Mounted Lavatory, Stainless Steel (Acorn 1950-1)	1,687.50	179.56
22 42 16 13-0068			Lavatory Carriers (22 42 16 13)		
22 42 16 13-0069			Floor Mounted, Lavatory Carriers (22 42 16 13-0068)		
22 42 16 13-0070			Floor Mounted Plate Type, Lavatory Carriers (22 42 16 13-0069)		
			Note: Includes adjustable supporting rods, structural uprights and welded feet.		
22 42 16 13-0071	EA		Floor Mounted Hanger Plate Type, Single Lavatory Carrier	577.93	38.99
			For Up To 4" Extension Sleeves And Hardware, Add	24.54	
			For Valve Plate For Attaching To Upright, Add	86.70	
			For Corner Carrier, Add	168.74	
22 42 16 13-0072	EA		Floor Mounted Bearing Plate Type, Single Lavatory Carrier	545.64	38.99
			For Up To 4" Extension Sleeves And Hardware, Add	24.54	
			For Valve Plate For Attaching To Upright, Add	86.70	
22 42 16 13-0073	EA		Floor Mounted Hanger Plate Type, Double Lavatory (Back To Back) Carrier	623.95	38.99
			For Up To 4" Extension Sleeves And Hardware, Add	49.08	
			For Valve Plate For Attaching To Upright, Add	173.40	
22 42 16 13-0074	EA		Floor Mounted Bearing Plate Type, Double Lavatory (Back To Back) Carrier	713.95	38.99
			For Up To 4" Extension Sleeves And Hardware, Add	49.08	
			For Valve Plate For Attaching To Upright, Add	173.40	
22 42 16 13-0075			Floor Mounted, Lavatory Carriers With Arms (22 42 16 13-0069)		
			Note: Includes leveling and securing screws, structural uprights and welded feet.		
22 42 16 13-0076	EA		Floor Mounted, Single Lavatory Carrier With Concealed Arms	745.79	46.17
			For Up To 6-1/2" Extension Sleeves And Hardware, Add	24.54	
			For Concealed Arm Carrier For Wheelchair Lavatory, Add	33.90	
			For Valve Plate For Attaching To Upright, Add	88.75	
			For 2" Chrome Plated Escutcheons, Add	82.98	
			For 4" Or 6" Chrome Plated Escutcheons, Add	150.77	
22 42 16 13-0077	EA		Floor Mounted, Single Lavatory Carrier With Exposed Acid Resistant White Coated Arms	859.52	46.17
			For Up To 4-1/2" Extension Sleeves And Hardware, Add	24.54	
			For Vandal Proof Trim, Add	66.63	
			For Valve Plate For Attaching To Upright, Add	88.75	
			For Heavy Duty Carrier, Add	85.32	
22 42 16 13-0078	EA		Floor Mounted, Double Lavatory (Back To Back) Carrier With Concealed Arms	1,002.60	46.17
			For Up To 6-1/2" Extension Sleeves And Hardware, Add	49.08	
			For Concealed Arm Carrier For Wheelchair Lavatory, Add	67.80	
			For Valve Plate For Attaching To Upright, Add	177.50	
			For 2" Chrome Plated Escutcheons, Add	165.97	
			For 4" Or 6" Chrome Plated Escutcheons, Add	301.55	
22 42 16 13-0079	EA		Floor Mounted, Double Lavatory (Back To Back) Carrier With Exposed Acid Resistant White Coated Arms	1,269.78	46.17
			For Up To 4-1/2" Extension Sleeves And Hardware, Add	49.08	
			For Vandal Proof Trim, Add	133.26	
			For Valve Plate For Attaching To Upright, Add	177.50	
			For Heavy Duty Carrier, Add	170.64	
22 42 16 13-0080			Wall Mounted, Lavatory Carriers (22 42 16 13-0068)		
22 42 16 13-0081			Wall Mounted Plate Type, Lavatory Carriers (22 42 16 13-0080)		
			Note: Includes wall plate and adjustable supporting rods.		
22 42 16 13-0082	EA		Wall Mounted Hanger Plate Type, Single Lavatory Carrier	224.22	38.99
			For Double Plate Carrier, Add	66.93	
22 42 16 13-0083			Wall Mounted Plate Type, Lavatory Carriers With Arms (22 42 16 13-0080)		
			Note: Includes wall plate and leveling and securing screws.		
22 42 16 13-0084	EA		Wall Mounted Fixed Steel Plate Type, Single Lavatory Carrier With Concealed Arms	372.14	46.17
			For Up To 4" Extension Sleeves And Hardware, Add	24.54	
			For 2" Chrome Plated Escutcheons, Add	82.98	
22 42 16 13-0085	EA		Wall Mounted Adjustable Plate Type, Single Lavatory Carrier With Concealed Arms	437.59	46.17
			For Movable Mounting Brackets, Deduct	-63.12	
			For Up To 4" Extension Sleeves And Hardware, Add	24.54	
			For 2" Chrome Plated Escutcheons, Add	82.98	
			For 4" Or 6" Chrome Plated Escutcheons, Add	150.77	
22 42 16 13-0086	EA		Wall Mounted Adjustable Plate Type, Single Lavatory Carrier With Exposed Acid Resistant White Coated Arms	639.79	46.17
			For Up To 4-1/2" Extension Sleeves And Hardware, Add	24.54	
			For Vandal Proof Trim, Add	66.63	
22 42 16 13-0087			Removal And Reinstallation Of Lavatory And Trim (22 42 16 13)		
			Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		

22 Plumbing**22 40 Plumbing Fixtures****22 42 Commercial Plumbing Fixtures**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 42 16 13-0088 EA Removal And Reinstallation Of Wall Hung Lavatory With Faucet.....301.78

22 42 16 16 Commercial Sinks (22 42 16)**22 42 16 16-0001****Sinks (22 42 16 16)**

Note: Includes drain, trap and supply valves. Excludes faucets.

22 42 16 16-0002**Kitchen Sinks (22 42 16 16-0001)**

22 42 16 16-0003	EA	25" x 22" x 8-3/4" Enameled Cast Iron Kitchen Sink, Single Bowl (Kohler® Mayfield®).....	725.39	96.44
22 42 16 16-0004	EA	22" x 33" x 9-5/8" Enameled Cast Iron Kitchen Sink, Double Bowl (Kohler® Brookfield®).....	933.84	109.79
22 42 16 16-0005	EA	15" x 17" x 7-1/4" Stainless Steel Kitchen Sink, Single Bowl, 20 Gauge (Elkay PSR1517).....	902.05	94.40
		<i>For 18 Gauge, Add</i>	258.64	
22 42 16 16-0006	EA	17" x 22" x 7-1/4" Stainless Steel Kitchen Sink, Single Bowl, 20 Gauge (Elkay PSR1722).....	924.79	94.40
		<i>For 18 Gauge, Add</i>	270.01	
22 42 16 16-0007	EA	22" x 22" x 7-1/4" Stainless Steel Kitchen Sink, Single Bowl, 20 Gauge (Elkay PSR2222).....	975.96	94.40
		<i>For 18 Gauge, Add</i>	295.60	
22 42 16 16-0008	EA	25" x 22" x 7-1/2" Stainless Steel Kitchen Sink, Single Bowl, 20 Gauge (Elkay PSR2522).....	1,022.38	96.44
		<i>For 18 Gauge, Add</i>	312.65	
22 42 16 16-0009	EA	31" x 22" x 7-1/4" Stainless Steel Kitchen Sink, Single Bowl, 20 Gauge (Elkay PSR3122).....	1,285.15	109.79
		<i>For 18 Gauge, Add</i>	424.45	
22 42 16 16-0010	EA	33" x 21" x 7-1/2" Stainless Steel Kitchen Sink, Double Bowl, 20 Gauge (Elkay PSR3321).....	1,312.59	109.79
		<i>For 18 Gauge, Add</i>	437.99	
22 42 16 16-0011	EA	15" x 17" x 10" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay DLR151710).....	1,270.62	94.40
22 42 16 16-0012	EA	17" x 22" x 10" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay DLR172210).....	1,296.20	94.40
22 42 16 16-0013	EA	22" x 22" x 10" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay DLR222210).....	1,360.63	94.40
22 42 16 16-0014	EA	25" x 22" x 10" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay DLR252210).....	1,447.79	96.44
22 42 16 16-0015	EA	31" x 22" x 11-1/2" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay DLR312210).....	1,748.46	109.79
22 42 16 16-0016	EA	33" x 22" x 8" Stainless Steel Kitchen Sink, Double Bowl, 18 Gauge (Elkay LR3322).....	1,675.47	109.79

22 42 16 16-0017**Undermount Kitchen Sinks (22 42 16 16-0001)**

22 42 16 16-0018	EA	21" x 15" x 7-1/2" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay ELU2115) With Strainer (Elkay LK99).....	1,134.11	94.40
22 42 16 16-0019	EA	21" x 15" x 10" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay ELU211510) With Strainer (Elkay LK99).....	1,131.34	94.40
22 42 16 16-0020	EA	21" x 15" x 7-1/2" Stainless Steel Kitchen Sink With Cutting Board, Single Bowl, 18 Gauge (Elkay ELUH2115) With Strainer (Elkay LK99).....	1,143.58	94.40
22 42 16 16-0021	EA	21" x 15" x 10" Stainless Steel Kitchen Sink With Cutting Board, Single Bowl, 18 Gauge (Elkay ELUH211510) With Strainer (Elkay LK99).....	1,208.01	94.40
22 42 16 16-0022	EA	21" x 15-3/4" x 4-3/8" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay ELUHAD2115) With Strainer (Elkay LK99).....	1,167.27	94.40
		Note: Available in 4-1/2", 5, or 5-1/2" depths.		
22 42 16 16-0023	EA	25" x 20-1/2" x 7-7/8" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay ELUHF2520) With Strainer (Elkay LK99).....	1,332.40	94.40
22 42 16 16-0024	EA	32" x 20-1/2" x 7-7/8" Stainless Steel Kitchen Sink, Single Bowl, 18 Gauge (Elkay ELUHF3320) With Strainer (Elkay LK99).....	1,579.29	94.40
22 42 16 16-0025	EA	21" x 18" x 5-1/2" Deep, Single Compartment Stainless Steel Sink, Undermount, 18 Gauge (Just Manufacturing Co. US-ADA-1821-A).....	928.80	94.40
22 42 16 16-0026	EA	32" x 18" x 5-1/2" Deep, Two Compartment Stainless Steel Sink, Undermount, 18 Gauge (Just Manufacturing Co. UD-ADA-1832-A).....	1,206.02	94.40

22 42 16 16-0027**Multi-Station Wash Sink, Wall Mounted (22 42 16 16-0001)**

Note: Includes concealed wall hanger, soap dish(s), strainer, supply lines and P-Trap. Excludes faucets.

22 42 16 16-0028	EA	36" Wide, 2 Station Enameled Cast Iron Multi-Station Wash Sink (Kohler® Brockway™).....	1,923.66	166.73
		Note: Excludes faucets.		
22 42 16 16-0029	EA	48" Wide, 2 Station Enameled Cast Iron Multi-Station Wash Sink (Kohler® Brockway™).....	2,545.94	179.56
		Note: Excludes faucets.		
22 42 16 16-0030	EA	60" Wide, 3 Station Enameled Cast Iron Multi-Station Wash Sink (Kohler® Brockway™).....	2,917.27	192.38
		Note: Excludes faucets.		
22 42 16 16-0031	EA	48" Wide, 2 Station Stainless Steel Multi-Station Wash Sink (Bradley 6951).....	2,327.71	128.26
		Note: Excludes faucets.		
22 42 16 16-0032	EA	62" Wide, 3 Station Stainless Steel Multi-Station Wash Sink (Bradley 6951).....	2,581.79	141.08
		Note: Excludes faucets.		
22 42 16 16-0033	EA	80" Wide, 4 Station Stainless Steel Multi-Station Wash Sink (Bradley 6951).....	2,830.80	153.91
		Note: Excludes faucets.		
22 42 16 16-0034	EA	102" Wide, 5 Station Stainless Steel Multi-Station Wash Sink (Bradley 6951).....	3,138.55	173.15
		Note: Excludes faucets.		
22 42 16 16-0035	EA	27" Diameter, 2 Person, Stainless Steel, Sensor Operated Compact Wash Fountain.....	3,003.62	282.17
		Note: Includes sensor operated spray heads.		

22 42 16 16-0036**Utility Or Laundry Sinks (22 42 16 16-0001)**

22 42 16 16-0037	EA	23" x 21" Molded Stone Single Laundry Sink, Floor Mounted With Enamel Steel Legs (Fiat Products FL-1).....	665.65	109.79
22 42 16 16-0038	EA	40" x 24" Molded Stone Double Laundry Sink, Floor Mounted With Enamel Steel Legs (Fiat Products FLTD-II).....	763.33	109.79
22 42 16 16-0039	EA	22" x 17" Molded Stone Single Laundry Sink, Drop-In (Fiat Products DL1).....	663.73	109.79
22 42 16 16-0040	EA	24" x 21" Enameled Cast Iron Single Laundry Sink, Floor Mounted With Metal Stand (Eljer 222-2210).....	1,008.95	109.79
22 42 16 16-0041	EA	48" x 21" Enameled Cast Iron Double Laundry Sink, Floor Mounted With Metal Stand (Eljer 222-2220).....	1,425.52	123.13

22 42 16 16-0042**Refinish Sink/Lavatory (22 42 16 16-0001)**

22 42 16 16-0043	EA	Refinish Sink/Lavatory.....	237.96	



	Plumbing	22	
	Plumbing Fixtures	22 40	22
	Commercial Plumbing Fixtures	22 42	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 16 16-0044		Service Sinks (22 42 16 16-0001)		
22 42 16 16-0045	EA	22" x 18" Enameled Cast Iron Wall Mount Service Sink With Stainless Steel Rim Guard, Trap Standard (American Standard Lakewell™).....	1,067.91	165.20
22 42 16 16-0046	EA	24" x 20" Enameled Cast Iron Wall Mount Service Sink With Stainless Steel Rim Guard, Trap Standard (American Standard Akron™).....	1,121.19	165.20
22 42 16 16-0047	EA	28" x 28" Enameled Cast Iron Floor Type Corner Service Sink With Removable Vinyl Coated Rim Guard (American Standard Florwell™).....	1,379.89	218.55
22 42 16 16-0048	EA	12" x 12" x 10" Cast Iron Floor Sink With Dome Strainer And Full Grate (Zurn FD2377-PO3-F).....	579.77	153.91
22 42 16 16-0049	EA	24" x 24" x 10" Plastic Composite Mop Service Sink With Combination Dome Strainer And Stainless Steel Lint Basket (Fiat Products MSB2424).....	664.83	153.91
22 42 16 16-0050	EA	36" x 24" x 10" Plastic Composite Mop Service Sink With Combination Dome Strainer And Stainless Steel Lint Basket (Fiat Products MSB3624).....	731.18	184.68
22 42 16 16-0051	EA	24" x 24" x 10" Molded Stone Mop Service Sink With Strainer (Swanstone MS-2424-010).....	598.28	153.91
22 42 16 16-0052	EA	36" x 24" x 10" Molded Stone Mop Service Sink With Strainer (Swanstone MS-2436-010).....	679.95	184.68
22 42 16 16-0053	EA	24" x 24" x 12" Terrazzo Mop Service Sink With Strainer (Acorn TSH-24).....	968.98	153.91
22 42 16 16-0054	EA	36" x 24" x 12" Terrazzo Mop Service Sink With Strainer (Acorn TSH-3624).....	1,197.06	184.68
22 42 16 16-0055	EA	33" x 33" x 10", Type 304 Stainless Steel, ADA Mop Sink (IMC Teddy FS-ADA).....	2,050.10	68.44
22 42 16 16-0056		Soapstone Sinks (22 42 16 16-0001)		
22 42 16 16-0057	EA	26-1/2" x 18-1/2" x 7-3/4" Single Bowl Soapstone Sink.....	1,071.36	94.40
22 42 16 16-0058	SF	Soapstone Sink Backsplash.....	171.53	
22 42 16 16-0059	EA	30" x 18-1/2" x 10" Single Bowl Soapstone Sink.....	1,366.44	109.79
22 42 16 16-0060	EA	36" x 18-1/2" x 10" Double Bowl Soapstone Sink.....	1,600.80	109.79
22 42 16 16-0061		Stainless Steel Sink And Drainboard (22 42 16 16-0001)		
22 42 16 16-0062	EA	Stainless Steel Sink With One 24" x 24" x 14" Depth Compartment And Drainboard, 14 Gauge Stainless Steel With Tubular Adjustable Legs (Advance Tabco 94-41-24-24L).....	4,417.88	256.51
22 42 16 16-0063		Classroom Sinks (22 42 16 16-0001) Note: Includes drain, trap and supply valves.		
22 42 16 16-0064	EA	25" x 17" x 6-1/2", 20 Gauge Stainless Steel, Top Mounting Type, 15-34" x 14" x 6-3/8" Deep Single Bowl, Drop-In Classroom ADA Sink (Elkay CDKAD2517654).....	864.42	94.40
		Note: Includes single manual handle faucet, gooseneck faucet and basket strainer (LKD208513LC, LK1141A, LK35)		
22 42 16 16-0065		Sink Carriers (22 42 16 16)		
22 42 16 16-0066		Floor Mounted Sink Carriers (22 42 16 16-0065) Note: With support plates, adjustable coupling with 4" piping connection, mounting studs, structural uprights, welded feet and chrome plated trim.		
22 42 16 16-0067	EA	Floor Mounted Heavy Duty Support Plate Type, Single Sink Carrier With 4" Adjustable Coupling.....	851.58	38.99
		For Vandal Proof Trim, Add.....	66.63	
		For Valve Plate For Attaching To Upright, Add.....	86.70	
22 42 16 16-0068	EA	Floor Mounted Heavy Duty Support Plate Type, Single Sink Carrier With 4" Adjustable Coupling And 4" x 2" Waste Fitting.....	1,130.04	38.99
		For Vandal Proof Trim, Add.....	66.63	
		For Auxiliary Vent, Add.....	197.75	
22 42 16 16-0069	EA	Floor Mounted Heavy Duty Support Plate Type, Single Sink Carrier With Exposed Acid Resistant White Coated Arms.....	1,415.24	38.99
		For Up To 4" Extension Sleeves And Hardware, Add.....	50.26	
		For Vandal Proof Trim, Add.....	66.63	
22 42 16 16-0070		Removal And Reinstallation Of Sink And Trim (22 42 16 16) Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		
22 42 16 16-0071	EA	Removal And Reinstallation Of Wall Hung Service Sink With Faucet.....	413.73	
22 42 19		Commercial Bathtubs (22 42)		
22 42 19 00-0001		Recessed Alcove Bathtubs (22 42 19)		
22 42 19 00-0002		Porcelain Enameled Cast Iron, Recessed Alcove Bathtubs (22 42 19 00-0001)		
22 42 19 00-0003	EA	54" x 30-1/4" x 14", Porcelain Enameled Cast Iron, Recessed Alcove Bathtub (Kohler® Seaforth™).....	1,482.03	285.24
22 42 19 00-0004	EA	60" x 32" x 16-1/4", Porcelain Enameled Cast Iron, Recessed Alcove Bathtub (Kohler® Mendota®).....	1,272.23	285.24
22 42 19 00-0005	EA	60" x 32" x 16-1/4", Porcelain Enameled Cast Iron, Recessed Alcove Bathtub (Kohler® Dynametric®).....	1,487.30	285.24
22 42 19 00-0006	EA	66" x 32" x 17", Porcelain Enameled Cast Iron, Recessed Alcove Bathtub (Kohler® Bellwether®).....	1,909.25	285.24
22 42 19 00-0007		Porcelain Enameled Steel, Recessed Alcove Bathtubs (22 42 19 00-0001)		
22 42 19 00-0008	EA	60" x 30" x 14-1/4", Porcelain Enameled Steel, Recessed Alcove Bathtub (American Standard New Salem®).....	666.13	285.24
22 42 19 00-0009	EA	60" x 30" x 16-5/8", Porcelain Enameled Steel, Recessed Alcove Bathtub (American Standard New Solar®).....	681.15	285.24
22 42 19 00-0010		Porcelain Finished Metal Alloy, Recessed Alcove Bathtubs (22 42 19 00-0001)		
22 42 19 00-0011	EA	60" x 32" x 17-3/4", Porcelain Finished Metal Alloy, Recessed Alcove Bathtub (American Standard Cambridge™).....	976.92	285.24



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 42 19 00-0012		Acrylic, Recessed Alcove Bathtubs (22 42 19 00-0001)			
22 42 19 00-0013	EA	60" x 32" x 19", Acrylic, Recessed Alcove Bathtub (Kohler® Archer®)	1,005.33	285.24	
22 42 19 00-0014	EA	60" x 36" x 20", Acrylic, Recessed Alcove Bathtub (Kohler® Mariposa®)	1,186.97	285.24	
22 42 19 00-0015	EA	66" x 36" x 20", Acrylic, Recessed Alcove Bathtub (Kohler® Mariposa®)	1,210.43	285.24	
22 42 19 00-0016	EA	72" x 36" x 20", Acrylic, Recessed Alcove Bathtub (Kohler® Mariposa®)	1,196.01	285.24	
22 42 19 00-0017	EA	72" x 42" x 21", Acrylic, Recessed Alcove Bathtub (Kohler® Windward®)	1,247.88	285.24	
22 42 19 00-0018		Bathtub Refinishing (22 42 19 00-0001)			
22 42 19 00-0019	EA	Refinish Porcelain Finished Bathtub With Acrylic Urethane Enamel	615.60		
22 42 19 00-0020		Tub And Shower Combinations (22 42 19)			
22 42 19 00-0021		Acrylic Tub And Shower Combination (22 42 19 00-0020)			
22 42 19 00-0022	EA	1 Piece, 60" x 32" x 72" Acrylic Tub And Shower (Delta 226032)	1,273.29	107.75	
		For 2 Piece Enclosure, Deduct	-276.28		
22 42 19 00-0023		Fiberglass Tub And Shower Combination (22 42 19 00-0020)			
22 42 19 00-0024	EA	1 Piece 60" x 32" x 72" Fiberglass Tub And Shower (Aquatic 2603-SG)	845.71	107.75	
22 42 19 00-0025	EA	2 Piece 60" x 30" x 72" Fiberglass Tub And Shower (Aquatic 2603-2P)	668.55	71.84	
22 42 19 00-0026	EA	4 Piece 60" x 32" x 75-1/2" Fiberglass Tub And Shower (Aquatic 26030-4P)	1,338.52	162.64	
22 42 19 00-0027	EA	3 Piece Tub/Shower Surrounds, 32" x 72" Side Walls, 48" x 72" Back, (Swanstone SK-324872)	3,438.42	324.51	
		For 2 Piece Enclosure, Deduct	-712.27		
22 42 23		Commercial Showers (22 42)			
22 42 23 00-0001		Shower Enclosures (22 42 23)			
		Note: Includes precast concrete receptors. Excludes plumbing hook-up and door or curtain.			
22 42 23 00-0002		Powder Coated Or Baked Enamel Steel Shower Enclosure (22 42 23 00-0001)			
22 42 23 00-0003	EA	32" x 32" x 82" Baked Enamel Steel Shower Enclosure (General Partitions)	1,717.53	165.49	
22 42 23 00-0004	EA	36" x 36" x 82" Baked Enamel Steel Shower Enclosure (General Partitions)	1,717.53	165.49	
22 42 23 00-0005	EA	40" x 40" x 82" Baked Enamel Steel Shower Enclosure (General Partitions)	2,604.92	165.49	
22 42 23 00-0006	EA	40" x 48" x 82" Handicapped, Baked Enamel Steel Shower Enclosure (General Partitions)	2,868.36	165.49	
22 42 23 00-0007		Solid Plastic Core High Density Polymer (HDP) Shower Enclosure (22 42 23 00-0001)			
22 42 23 00-0008	EA	32" x 32" x 82" Single Opening Solid Plastic Shower Enclosure (General Partitions)	2,840.63	165.49	
22 42 23 00-0009	EA	36" x 36" x 82" Single Opening Solid Plastic Shower Enclosure (General Partitions)	2,840.63	165.49	
22 42 23 00-0010	EA	40" x 40" x 82" Single Opening Solid Plastic Shower Enclosure (General Partitions)	4,088.51	165.49	
22 42 23 00-0011	EA	40" x 48" x 82" Handicapped, Solid Plastic Shower Enclosure (General Partitions)	4,573.80	165.49	
22 42 23 00-0012		Composite Fiberglass Shower Enclosure, 4 Piece Knock-Down (22 42 23 00-0001)			
22 42 23 00-0013	EA	32" x 32" x 76" Composite Shower Enclosure, 4 Piece (Aquatic 3232CS)	1,434.82	165.49	
22 42 23 00-0014	EA	36" x 36" x 76" Composite Shower Enclosure, 4 Piece (Aquatic 3636CS)	1,475.78	165.49	
22 42 23 00-0015	EA	34" x 48" x 76" Composite Shower Enclosure, 4 Piece (Aquatic 4834CS)	1,516.74	165.49	
22 42 23 00-0016	EA	30" x 60" x 76" Composite Shower Enclosure, 4 Piece (Aquatic 6030CSL)	1,598.65	165.49	
22 42 23 00-0017	EA	34" x 60" x 76" Composite Shower Enclosure, 4 Piece (Aquatic 6034CS)	1,707.19	165.49	
22 42 23 00-0018		1 Piece Shower Units (22 42 23)			
22 42 23 00-0019	EA	1 Piece, 32" x 32" x 73" Fiberglass Shower With Drain (Swanstone FS03232)	1,233.23	107.75	
22 42 23 00-0020	EA	1 Piece, 36" x 36" x 73" Fiberglass Shower With Drain (Swanstone FS03636)	1,383.62	107.75	
22 42 23 00-0021		Personnel Type Shower Receptors (22 42 23)			
22 42 23 00-0022		Acrylic Shower Receptors (22 42 23 00-0021)			
22 42 23 00-0023	EA	36" x 36" Acrylic Shower Receptor	455.91	41.78	
22 42 23 00-0024	EA	42" x 42" Acrylic Shower Receptor	482.32	41.78	
22 42 23 00-0025	EA	48" x 48" Acrylic Shower Receptor	535.05	41.78	
22 42 23 00-0026	EA	60" x 60" Acrylic Shower Receptor	650.83	50.14	
22 42 23 00-0027	EA	48" x 32" Acrylic Shower Receptor	457.15	41.78	
22 42 23 00-0028	EA	48" x 36" Acrylic Shower Receptor	491.88	41.78	
22 42 23 00-0029	EA	48" x 42" Acrylic Shower Receptor	556.49	41.78	
22 42 23 00-0030	EA	60" x 32" Acrylic Shower Receptor	617.96	50.14	
22 42 23 00-0031	EA	60" x 36" Acrylic Shower Receptor	622.43	50.14	
22 42 23 00-0032	EA	60" x 42" Acrylic Shower Receptor	626.53	50.14	
22 42 23 00-0033	EA	60" x 48" Acrylic Shower Receptor	690.73	50.14	
22 42 23 00-0034	EA	36" x 36" Acrylic Corner Shower Receptor	667.58	41.78	
22 42 23 00-0035	EA	42" x 42" Acrylic Corner Shower Receptor	767.25	41.78	
22 42 23 00-0036		Molded Stone Shower Receptors (22 42 23 00-0021)			
22 42 23 00-0037	EA	32" x 32" Molded Stone Shower Receptor (Fiat 32WL)	302.35	41.78	



Plumbing			22
Plumbing Fixtures			22 40
Commercial Plumbing Fixtures			22 42

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 23 00-0038	EA		34" x 34" Molded Stone Shower Receptor (Fiat 34WL)	317.25	41.78
22 42 23 00-0039	EA		36" x 36" Molded Stone Shower Receptor (Fiat 36WL)	318.91	41.78
22 42 23 00-0040	EA		42" x 42" Molded Stone Shower Receptor (Fiat 4242WL)	392.58	41.78
22 42 23 00-0041	EA		42" x 34" Molded Stone Shower Receptor (Fiat 42WL)	347.88	41.78
22 42 23 00-0042	EA		48" x 32" Molded Stone Shower Receptor (Fiat 4832WL)	368.58	41.78
22 42 23 00-0043	EA		48" x 34" Molded Stone Shower Receptor (Fiat 48WL)	371.06	41.78
22 42 23 00-0044	EA		54" x 34" Molded Stone Shower Receptor (Fiat 54WL)	429.55	50.14
22 42 23 00-0045	EA		60" x 34" Molded Stone Shower Receptor (Fiat 60WL)	445.28	50.14
22 42 23 00-0046	EA		36" x 36" Molded Stone Corner Shower Receptor (Fiat 36WLC)	352.02	41.78
22 42 23 00-0047	EA		38" x 38" Molded Stone Corner Shower Receptor (Fiat 38WLC)	361.13	41.78
22 42 23 00-0048 Precast Terrazzo Shower Receptors (22 42 23 00-0021)					
22 42 23 00-0049	EA		30" x 30" Precast Terrazzo Shower Receptor	572.22	41.78
22 42 23 00-0050	EA		32" x 32" Precast Terrazzo Shower Receptor	594.57	41.78
22 42 23 00-0051	EA		34" x 34" Precast Terrazzo Shower Receptor	615.27	41.78
22 42 23 00-0052	EA		36" x 36" Precast Terrazzo Shower Receptor	617.75	41.78
22 42 23 00-0053	EA		40" x 40" Precast Terrazzo Shower Receptor	676.53	41.78
22 42 23 00-0054	EA		42" x 42" Precast Terrazzo Shower Receptor	706.33	41.78
22 42 23 00-0055	EA		48" x 48" Precast Terrazzo Shower Receptor	994.41	41.78
22 42 23 00-0056	EA		36" x 32" Precast Terrazzo Shower Receptor	610.30	41.78
22 42 23 00-0057	EA		42" x 32" Precast Terrazzo Shower Receptor	622.17	41.78
22 42 23 00-0058	EA		42" x 34" Precast Terrazzo Shower Receptor	643.41	41.78
22 42 23 00-0059	EA		42" x 36" Precast Terrazzo Shower Receptor	669.90	41.78
22 42 23 00-0060	EA		32" x 48" Precast Terrazzo Shower Receptor	672.39	41.78
22 42 23 00-0061	EA		48" x 34" Precast Terrazzo Shower Receptor	706.33	41.78
22 42 23 00-0062	EA		54" x 32" Precast Terrazzo Shower Receptor	740.27	41.78
22 42 23 00-0063	EA		60" x 30" Precast Terrazzo Shower Receptor	1,001.27	50.14
22 42 23 00-0064	EA		60" x 32" Precast Terrazzo Shower Receptor	1,095.20	50.14
22 42 23 00-0065	EA		60" x 34" Precast Terrazzo Shower Receptor	1,099.81	50.14
22 42 23 00-0066	EA		60" x 36" Precast Terrazzo Shower Receptor	1,104.39	50.14
22 42 23 00-0067	EA		32" x 32" Precast Terrazzo Corner Shower Receptor	621.06	41.78
22 42 23 00-0068	EA		34" x 34" Precast Terrazzo Corner Shower Receptor	622.17	41.78
22 42 23 00-0069	EA		36" x 36" Precast Terrazzo Corner Shower Receptor	624.37	41.78
22 42 23 00-0070	EA		40" x 40" Precast Terrazzo Corner Shower Receptor	749.37	41.78
22 42 23 00-0071	EA		36" x 36", ADA Wheelchair Accessible, Precast Terrazzo Shower Receptor	1,366.10	41.78
22 42 23 00-0072	EA		60" x 30", ADA Wheelchair Accessible, Precast Terrazzo Shower Receptor	1,520.62	50.14
22 42 23 00-0073	EA		60" x 36", ADA Wheelchair Accessible, Precast Terrazzo Shower Receptor	1,585.19	50.14
22 42 23 00-0074 Shower Receptors Accessories (22 42 23 00-0021)					
22 42 23 00-0075	SF		Polyvinyl Chloride (PVC) Shower Pan Liner	3.77	
22 42 23 00-0076 Removal And Reinstallation Of Fixtures And Trim (22 42 23)					
Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.					
22 42 23 00-0077	EA		Removal And Reinstallation Of Shower Head	50.14	
22 42 23 00-0078 Removal Of Tile Shower Floor With Lead Liner Pan (22 42 23)					
See CSI section 01 74 19 00-0031 for landfill dump fee.					
22 42 23 00-0079	SF		Removal Of Tile Shower Floor With Lead Liner Pan	0.00	4.06
22 42 26 Commercial Disposers (22 42)					
See CSI section 22 41 26 00-0001 for disposals.					
22 42 33 Wash Fountains (22 42)					
22 42 33 00-0001 Circular Wash Fountain, Deep Bowl (22 42 33)					
Note: Includes trim and trap. 2" IPS waste outlets foot control/hand control operated.					
22 42 33 00-0002	EA		36" Stainless Steel Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2705F-A-LSD)	8,706.45	174.61
For Metal Soap Dispenser, Add				100.00	
For Stainless Steel Pedestal Panels, Add				100.00	
22 42 33 00-0003	EA		36" Bradstone® Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2805F-A-LSD)	4,969.10	174.61
For Metal Soap Dispenser, Add				100.00	
For Stainless Steel Pedestal Panels, Add				100.00	
22 42 33 00-0004	EA		36" Terreon® Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley TDB3105AIRLSDE)	8,598.54	174.61
For Metal Soap Dispenser, Add				100.00	
For Stainless Steel Pedestal Panels, Add				100.00	
22 42 33 00-0005	EA		36" Stainless Steel Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2708F-A-LSD)	11,095.00	199.55
For Metal Soap Dispenser, Add				100.00	
For Stainless Steel Pedestal Panels, Add				100.00	
22 42 33 00-0006	EA		54" Bradstone® Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2808F-A-LSD)	5,733.16	199.55
For Metal Soap Dispenser, Add				100.00	
For Stainless Steel Pedestal Panels, Add				100.00	

22 Plumbing**22 40 Plumbing Fixtures****22 42 Commercial Plumbing Fixtures**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 33 00-0007	EA		54" Terreon® Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley TDB3108AIRLSDE).....	10,301.44	199.55
			For Metal Soap Dispenser, Add	100.00	
			For Stainless Steel Pedestal Panels, Add	100.00	
22 42 33 00-0008			Semi-Circular Wash Fountain, Deep Bowl (22 42 33)		
			Note: Includes trim and trap. 2" IPS waste outlets foot control/hand control operated.		
22 42 33 00-0009	EA		36" Stainless Steel Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2703F-A-LSD).....	7,596.09	149.66
			For Metal Soap Dispenser, Add	100.00	
			For Stainless Steel Pedestal Panels, Add	100.00	
22 42 33 00-0010	EA		36" Bradstone® Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2803F-A-LSD).....	4,535.48	149.66
			For Metal Soap Dispenser, Add	100.00	
			For Stainless Steel Pedestal Panels, Add	100.00	
22 42 33 00-0011	EA		36" Terreon® Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley TDB3103AIRLSDE).....	6,521.83	149.66
			For Metal Soap Dispenser, Add	100.00	
			For Stainless Steel Pedestal Panels, Add	100.00	
22 42 33 00-0012	EA		54" Stainless Steel Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2704F-A-LSD).....	9,320.19	174.61
			For Metal Soap Dispenser, Add	100.00	
			For Stainless Steel Pedestal Panels, Add	100.00	
22 42 33 00-0013	EA		54" Bradstone® Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley WF2804F-A-LSD).....	5,471.97	174.61
			For Metal Soap Dispenser, Add	100.00	
			For Stainless Steel Pedestal Panels, Add	100.00	
22 42 33 00-0014	EA		54" Terreon® Semi-Circular Wash Fountain Including Trim, Trap, 2" IPS Outlet And Foot/Hand Controls (Bradley TDB3104AIRLSDE).....	7,757.79	174.61
			For Metal Soap Dispenser, Add	100.00	
			For Stainless Steel Pedestal Panels, Add	100.00	
22 42 39			Commercial Faucets, Supplies, and Trim (22 42)		
22 42 39 00-0001			Kitchen Faucets (22 42 39)		
22 42 39 00-0002	EA		Top Cast Kitchen Faucet, Single Handle, Chrome Finish (Delta 140-DST).....	216.63	51.30
22 42 39 00-0003	EA		Top Cast Kitchen Faucet With Spray, Single Handle, Chrome Finish (Delta 440-DST).....	245.82	51.30
22 42 39 00-0004	EA		Top Cast Kitchen Faucet, Single Handle, Stainless Steel Finish (Delta 140-SS-DST).....	203.50	51.30
22 42 39 00-0005	EA		Top Cast Kitchen Faucet With Spray, Single Handle, Stainless Steel Finish (Delta 440-SS-DST).....	230.04	51.30
22 42 39 00-0006	EA		Top Cast Kitchen Faucet, Two Handle, Chrome Finish, 8" Center, Lever Handles (Delta 2102LF-LHP+H24).....	201.20	51.30
22 42 39 00-0007	EA		Top Cast Kitchen Faucet With Spray, Two Handle, Chrome Finish, 8" Center, Lever Handles (Delta 2402LF-LHP+H24).....	221.76	51.30
22 42 39 00-0008	EA		Top Cast Kitchen Faucet, Two Handle, Chrome Finish, Center Gooseneck Faucet, Lever Handles (Delta 21987LF).....	291.09	51.30
22 42 39 00-0009	EA		Top Cast Kitchen Faucet With Spray, Two Handle, Chrome Finish, Center Gooseneck Faucet, Lever Handles (Delta 21996LF).....	204.10	51.30
22 42 39 00-0010	EA		Bottom Mount Kitchen Faucet, Single Handle, Chrome Finish (Delta 101LF-WF).....	196.31	51.30
22 42 39 00-0011	EA		Bottom Mount Kitchen Faucet With Spray, Single Handle, Chrome Finish (Delta 175LF-WF).....	234.37	51.30
22 42 39 00-0012	EA		Bottom Mount Kitchen Faucet, Two Handle, Chrome Finish, Gooseneck Faucet, Lever Handles (Delta 2274-LHP+H24).....	410.68	51.30
22 42 39 00-0013	EA		Bottom Mount Kitchen Faucet With Spray, Two Handle, Chrome Finish, Gooseneck Faucet, Lever Handles (Delta 2276-LHP+H24).....	451.55	51.30
22 42 39 00-0014	EA		Deck Mount Sink Faucet, 8" Center Set, Lever Handles (Chicago Faucet 1100 ABCP).....	423.87	55.71
22 42 39 00-0015	EA		Deck Mount Sink Faucet, 8" Center Set, 4" Wristblade Handles (Chicago Faucet 1100-GN2AE3-317CP).....	421.88	55.71
22 42 39 00-0016	EA		Deck Mount Gooseneck Sink Faucet, 4" Center Set, Blade Handles (Chicago Faucet 802-317CP).....	311.89	55.71
22 42 39 00-0017	EA		Chrome Single Handle Kitchen Faucet With Integrated Spray (Elkay LKGT1041CR).....	736.90	51.30
22 42 39 00-0018	EA		Brushed Nickel Single Handle Kitchen Faucet With Integrated Spray (Elkay LKGT1041NK).....	935.25	51.30
22 42 39 00-0019	EA		Oil Rubbed Bronze Single Handle Kitchen Faucet With Integrated Spray (Elkay LKGT1041RB).....	1,001.37	51.30
22 42 39 00-0020	EA		Chrome Single Handle Kitchen Faucet With Integrated Spray, 1.5 GPM Aerator (Elkay LKLFGT1041CR).....	736.90	51.30
22 42 39 00-0021	EA		Brushed Nickel Single Handle Kitchen Faucet With Integrated Spray, 1.5 GPM Aerator (Elkay LKLFGT1041NK).....	935.25	51.30
22 42 39 00-0022	EA		Oil Rubbed Bronze Single Handle Kitchen Faucet With Integrated Spray, 1.5 GPM Aerator (Elkay LKLFGT1041RB).....	1,001.37	51.30
22 42 39 00-0023			Lavatory Faucets (22 42 39)		
22 42 39 00-0024	EA		Single Handle Centerset Lavatory Faucet, Polished Chrome Finish (Delta Lahara 538-MPU-DST).....	268.42	36.94
22 42 39 00-0025	EA		4" Centerset Lavatory Faucet With Chrome Lever Handle (Delta 501LF-WF).....	183.97	36.94
22 42 39 00-0026	EA		4" Classic Style Centerset Lavatory Faucet With Chrome Lever Handles (Delta 2523LF-MPU).....	230.17	36.94
22 42 39 00-0027	EA		4" Centerset Lavatory Faucet With Chrome Lever Handles (Delta 2529LF-HDM).....	253.20	36.94
22 42 39 00-0028	EA		Classic Style Widespread Lavatory Faucet With Chrome Lever Handles (Delta 3530LF-MPU).....	312.70	36.94
22 42 39 00-0029	EA		Widespread Lavatory Gooseneck Faucet With Chrome Lever Handles (Delta 3579LF-WFHDF).....	365.54	36.94
22 42 39 00-0030	EA		Self Closing/Metered Faucet, Brass, Single Hole, Push Handle (Delta 86T104).....	220.23	36.94
22 42 39 00-0031	EA		Self Closing/Metered Faucet, Double Hole, Push Handles (American Standard 1340.225.002).....	339.17	36.94
22 42 39 00-0032	EA		Single Inlet, Push Handle Metering Faucet, ADA (Chicago Faucet 333-665).....	242.33	36.94
22 42 39 00-0033	EA		3" Reach, 4-Arm Handle Single Basin Faucet (T&S Brass 0710).....	248.12	36.94
22 42 39 00-0034	EA		3" Reach, Push Handle Self-Closing Valve, Single Basin Metering Faucet (T&S Brass 0712).....	301.19	36.94
22 42 39 00-0035	EA		4" Reach, Push Handle Self-Closing Valve, Single Basin Metering Faucet (T&S Brass 0805).....	294.91	36.94
22 42 39 00-0036	EA		4" Classic Style Centerset Lavatory Faucet With Chrome Lever Handles (Zurn Z81104).....	239.56	36.94
22 42 39 00-0037			Bath And Shower Faucets (22 42 39)		



Plumbing			22
Plumbing Fixtures			22 40
Commercial Plumbing Fixtures			22 42

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 39 00-0038			Bath And Shower Faucets With Valve Body (22 42 39 00-0037)		
22 42 39 00-0039	EA		Single Lever Handle, Chrome Tub Filler, Pressure-Balance (American Standard T480 500)	246.57	44.53
22 42 39 00-0040	EA		Single Lever Handle, Chrome Shower Only, Pressure-Balance (American Standard T480.501)	290.14	44.53
22 42 39 00-0041	EA		Single Lever Handle, Chrome Shower And Tub Filler, Pressure-Balance (American Standard T480.502)	318.07	44.53
22 42 39 00-0042	EA		Two Lever Handle, Chrome Tub Filler (American Standard Colony Soft 3275.505)	227.57	44.53
			For Faucet With Metal Cross Handles, Add	45.75	
22 42 39 00-0043	EA		Two Lever Handle, Chrome Shower Only (American Standard Colony Soft 3275.501)	238.75	44.53
			For Faucet With Metal Cross Handles, Add	45.75	
22 42 39 00-0044	EA		Two Lever Handle, Chrome Shower And Tub Filler (American Standard Colony Soft 3275.502)	271.14	44.53
			For Faucet With Metal Cross Handles, Add	45.75	
22 42 39 00-0045	EA		Three Lever Handle, Chrome Shower And Tub Filler (American Standard Colony Soft 3375.502)	308.01	44.53
			For Faucet With Metal Cross Handles, Add	45.75	
22 42 39 00-0046			Shower Valves And Trim (22 42 39)		
			See CSI section 22 41 39 00-0011 for residential shower valves and heads.		
22 42 39 00-0047	EA		Removable Hand Held Shower With Hose Wall Hook And Inline Vacuum Breaker (Powers 141-318 with 141-319)	394.28	69.26
22 42 39 00-0048	EA		Concealed Thermostatic/Pressure Balancing Control Valve With Chrome Plated Shower Head (Chicago Faucet 2502-600CP)	905.61	69.26
22 42 39 00-0049	EA		Concealed Pressure Balancing Control Valve With Chrome Plated Shower Head (Chicago Faucet 1762-ISCP)	623.93	69.26
22 42 39 00-0050	EA		Senior Institutional Shower Head (Symmons® 4-150)	239.58	44.53
22 42 39 00-0051	EA		Universal Institutional Shower Head (Symmons® 4-151)	405.93	44.53
22 42 39 00-0052	EA		Fre-Flo Institutional Shower Head (Symmons® 4-295)	283.38	44.53
22 42 39 00-0053	EA		Fre-Flo Institutional Shower Head With Short Arm (Symmons® 4-385)	211.65	44.53
22 42 39 00-0054	EA		Wall Mounted Shower Valve And Slide Bar, Single Lever Concealed Mixer (Symmons® 96-300-B30-V-X)	908.53	66.70
22 42 39 00-0055	EA		Wall Mounted Shower Valve, Tub Faucet, And Slide Bar, Single Lever Concealed Mixer (Symmons® 96-400-B30-V-X)	740.34	76.96
22 42 39 00-0056	EA		Wall Mounted Shower Valve, Slide Bar And Head, Single Lever Concealed Mixer (Symmons® 96-500-B30-V-X)	983.10	76.96
22 42 39 00-0057	EA		Wall Mounted Shower Valve, Tub Faucet, Slide Bar And Head, Single Lever Concealed Mixer (Symmons® 96-600-B30-V-X)	1,390.16	82.08
22 42 39 00-0058	EA		Stainless Steel Shower System With Thru-Wall Exposed Piping Covering, Adjustable Shower Head, Soap Dish, Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-801S/1-802S)	1,262.68	69.26
			For Hand Spray, Hose And Wall Hooks, Add	106.44	
			For Recessed Soap Dish, Add	108.12	
			For Hand Spray, Hose And 30" Slide Bar, Add	165.51	
			For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0059	EA		Stainless Steel Corner Shower System With Thru-Wall Exposed Piping Covering, Adjustable Shower Head, Soap Dish, Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-807)	1,505.11	69.26
			For Hand Spray, Hose And Wall Hooks, Add	106.44	
			For Recessed Soap Dish, Add	108.12	
			For Hand Spray, Hose And 30" Slide Bar, Add	165.51	
			For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0060	EA		Stainless Steel Institutional Shower System With Thru-Wall Exposed Piping Covering, Vandal Resistant Adjustable Shower Head, Soap Dish, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-901S)	1,018.30	69.26
			For Hand Spray, Hose And Wall Hooks, Add	19.32	
			For Hand Spray, Hose And 30" Slide Bar, Add	78.39	
			For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0061	EA		Stainless Steel Institutional Shower System With Flat Wall Recessed Piping Covering, Vandal Resistant Adjustable Shower Head, Soap Dish And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-911RS)	1,547.73	69.26
			For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0062	EA		Stainless Steel Double Outlet Institutional Shower System With Thru-Ceiling Exposed Piping Covering, Vandal Resistant Adjustable Shower Head, Soap Dish, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-902S-FS)	1,661.85	69.26
			For Hand Spray, Hose And 30" Slide Bar, Add	59.07	
			For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0063	EA		Stainless Steel Institutional Triple Shower System With Thru-Wall Exposed Piping Covering, Vandal Resistant Adjustable Shower Heads, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-931)	3,083.29	69.26
			For Recessed Soap Dish, Add	83.94	
			For Pressure Balance And Metering Combination, Add	227.79	
22 42 39 00-0064	EA		Stainless Steel Institutional Double Shower System With Thru-Wall Exposed Piping Covering, Vandal Resistant Adjustable Shower Heads, Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-921)	2,690.77	69.26
			For Recessed Soap Dish, Add	83.94	
			For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0065	EA		Stainless Steel Tub And Shower System With Thru-Wall Exposed Piping Covering, Adjustable Shower Head, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-941-231)	1,340.42	69.26
22 42 39 00-0066	EA		Stainless Steel Double Outlet Institutional Shower System With Flat Wall Recessed Piping Covering, Vandal Resistant Adjustable Shower Head, Hand Spray, Hose, Wall Hooks, Soap Dish And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-912RS-FS)	2,068.61	69.26
			For Hand Spray, Hose And 30" Slide Bar, Add	59.07	
			For Pressure Balance And Metering Combination, Add	291.63	
22 42 39 00-0067	EA		Stainless Steel Single Supply Institutional Shower System With Thru-Wall Exposed Piping Covering, Vandal Resistant Adjustable Shower Head, Soap Dish, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-901S-60)	1,338.59	69.26
22 42 39 00-0068	EA		Stainless Steel Single Supply Single Outlet Institutional Shower System With Thru-Wall Exposed Piping Covering, Vandal Resistant Adjustable Shower Head, Soap Dish, Sloped Metal Top Cap And Thermostatic/Pressure Balancing Control Valve (Symmons® Hydapipe® 1-901S-22-FS)	1,334.57	69.26
			For Hand Spray, Hose And 30" Slide Bar, Add	59.07	
22 42 39 00-0069	EA		Single Lever Handle, Chrome, Pressure-Balance, Shower System (Symmons SafetyMix 1-100-X-3/4)	986.23	61.56
22 42 39 00-0070	EA		Single Lever Handle, Chrome, Pressure-Balance, Shower Valve (Symmons SafetyMix 4-500)	763.88	44.53



MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 42 39 00-0071		Service Sink Faucets (22 42 39)		
22 42 39 00-0072	EA	4-5/8" Spout With Vacuum Breaker, Wall Mount Service Sink Faucet With Lever Handles (Kohler® Kinlock™)	533.13	85.42
22 42 39 00-0073	EA	3" Spout, Wall Mount, Service Sink Faucet With Lever Handles (American Standard 8340.235).....	377.39	85.42
22 42 39 00-0074	EA	3" Spout With Vacuum Breaker, Wall Mount Service Sink Faucet With Lever Handles (American Standard 8340.243)	407.55	85.42
22 42 39 00-0075	EA	6" Spout With Vacuum Breaker And Top Brace, Wall Mount Service Sink Faucet, Lever Handles (American Standard 8344.012).....	423.20	85.42
22 42 39 00-0076	EA	7-1/4" Spout With Bottom Fork Brace, Stops In Integral Arm, Wall Mount Service Sink Faucet With Wrist Blade Handles (American Standard 8355.101).....	551.58	119.74
22 42 39 00-0077	EA	7-1/4" Spout With Vacuum Break And Bottom Fork Brace, Stops In Integral Arm, Wall Mount Service Sink Faucet With Wrist Blade Handles (American Standard 8355.110).....	617.45	136.47
22 42 39 00-0078	EA	11" Spout With Bottom Fork Brace, Stops In Integral Arm, Wall Mount Service Sink Faucet With Wrist Blade Handles (American Standard 8345.115).....	715.76	136.47
22 42 39 00-0079	EA	Wall Mount Service Sink Faucet With Atmospheric Vacuum Breaker Spout, Lever Handles (Chicago Faucet 305-VBRCF)	419.90	85.42
22 42 39 00-0080	EA	44" Flexible Stainless Steel Hose With Insulated Handle, 23" Riser, Pre-Rinse Faucet (Chicago Faucet 923-KXCAB)	864.12	136.47
22 42 39 00-0081		Laboratory Faucets And Fittings (22 42 39)		
22 42 39 00-0082	EA	Cold Faucet, Single Deck Mount, Gooseneck Spout With Serrated Nozzle Outlet, Laboratory Faucet (Chicago Faucet 927)	216.15	36.33
22 42 39 00-0083	EA	Single Deck Mount, Gooseneck Spout With Serrated Nozzle Outlet, Hot And Cold, Laboratory Faucet (Chicago Faucet 929)	355.04	51.30
22 42 39 00-0084	EA	Single Deck Mount, Gooseneck Spout With Serrated Nozzle Outlet, Hot And Cold, Laboratory Faucet With Vacuum Breaker (Chicago Faucet 930).....	462.55	51.30
22 42 39 00-0085	EA	Cold Wall Mount, Gooseneck Spout With Aerator, Laboratory Faucet (Chicago Faucet 933).....	281.88	47.91
22 42 39 00-0086	EA	6" Spout With Aerator, Wall Mount, Hot And Cold, Laboratory Faucet (Chicago Faucet 940).....	382.51	68.34
22 42 39 00-0087	EA	6" Spout With Aerator And Vacuum Breaker, Wall Mount, Hot And Cold, Laboratory Faucet (Chicago Faucet 940-VBE7-CP).....	522.68	68.34
22 42 39 00-0088	EA	Dual Deck Mount, Gooseneck Spout With Serrated Nozzle Outlet, Hot And Cold, Laboratory Faucet (Chicago Faucet 946)	418.67	51.30
22 42 39 00-0089	EA	Gooseneck Spout With Aerator, Wall Mount, Hot And Cold, Laboratory Faucet (Chicago Faucet 942)	407.98	68.34
22 42 39 00-0090	EA	Single Control, Single Hole Deck Mount Sink Faucet (Chicago Faucet 350-CP).....	268.07	39.44
22 42 39 00-0091	EA	Dual Control, Single Hole Deck Mount Sink Faucet (Chicago Faucet 50-CP).....	377.64	55.71
22 42 39 00-0092	EA	4" Center Set, Deck Mount, Lavatory Faucet With Blade Handles (Chicago Faucet 802).....	288.80	55.71
22 42 39 00-0093	EA	4" Center Set, Deck Mount, Gooseneck Sink Faucet With Blade Handles (Chicago Faucet 895-317ABCP).....	354.74	55.71
22 42 39 00-0094	EA	Gas Ball Valve, Removable Nozzle, With Index Button (Chicago Faucet 900-AGVCP).....	89.28	34.27
22 42 39 00-0095	EA	Dual Service Lab Fitting, Two Gas And One Water Outlet (Chicago Faucet 1332-CP).....	581.29	61.56
22 42 39 00-0096	EA	Dual Service Lab Fitting With Wristblade Handle, Two Gas And One Water Outlet (Chicago Faucet 1332-317CP).....	750.64	61.56
22 42 39 00-0097	EA	Dual Service Lab Fitting With Metal Cross Handle, Inline Vacuum Breaker, Two Gas And One Water Outlet (Chicago Faucet 1332-E22E7-204CP).....	904.92	61.56
22 42 39 00-0098	EA	Dual Service Lab Fitting With Plastic Cross Handle, Two Gas And One Water Outlet (Chicago Faucet 1332-E22E7CP).....	798.97	61.56
22 42 39 00-0099	EA	Dual Service Lab Fitting With Chemical Resistant Coating And Plastic Cross Handle, Two Gas And One Water Outlet (Chicago Faucet 1332-E22E7SAM).....	953.46	61.56
22 42 39 00-0100	EA	Single, Deck Mounted Laboratory Ball Valve Assembly (Watersaver L4100-131WSA)	156.43	33.86
22 42 39 00-0101	EA	90 Degree Double, Deck Mounted Laboratory Ball Valve Assembly (Watersaver L4100-132AWSA)	220.31	40.63
22 42 39 00-0102	EA	180 Degree Double, Deck Mounted Laboratory Ball Valve Assembly (Watersaver L4100-132SWSA)	220.31	40.63
22 42 39 00-0103	EA	Three Way, Deck Mounted Laboratory Ball Valve Assembly (Watersaver L4100-133WSA).....	284.20	47.40
22 42 39 00-0104	EA	Four Way, Deck Mounted Laboratory Ball Valve Assembly (Watersaver L4100-134WSA)	348.07	54.17
22 42 39 00-0105		Gooseneck Faucets With Independent Eyewash (22 42 39)		
22 42 39 00-0106	EA	Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-CA).....	889.57	38.47
22 42 39 00-0107	EA	Single Lever Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-CA-SL)	965.49	35.91
22 42 39 00-0108	EA	8" Stem, Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-CA-8).....	1,247.90	38.47
22 42 39 00-0109	EA	Serrated Tip With Vacuum Breaker, Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-ST).....	1,318.44	38.47
22 42 39 00-0110	EA	Thermostatic Mixing Valve Kit For The SEF-1800 (Speakman SEF-TW).....	1,605.72	25.66
22 42 39 00-0111	EA	Foot Pedal Activation, Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-FP)	1,928.92	64.13
22 42 39 00-0112	EA	Thermostatic Mixing Valve Kit, Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-CA-TW).....	2,698.44	64.13
22 42 39 00-0113	EA	8" Stem, Thermostatic Mixing Valve Kit, Two Handle Widespread Valves, Gooseneck Faucet With Independent Eyewash (Speakman SEF-1800-CA-8TW).....	2,788.21	64.13
22 42 39 00-0114	EA	Adjustable Aerated Outlet Heads, Gooseneck Faucet Mounted Eyewash (WaterSaver EW101)	313.33	39.00
22 42 39 00-0115	EA	Gooseneck Faucet Mounted Eyewash With Faucet Control Valve (WaterSaver EW200).....	345.77	39.00
22 42 39 00-0116	EA	Gooseneck Faucet Mounted Eyewash With Faucet Control Valve (WaterSaver EW201).....	374.10	39.00
22 42 39 00-0117	EA	6 Gallon Capacity, Tempering Valve (WaterSaver AP3600).....	1,684.18	25.66
22 42 39 00-0118		Bubblers And Glass Fillers (22 42 39)		
22 42 39 00-0119	EA	Self-Closing Bubbler Faucet, Metering Handle (Chicago Faucet 748-665CP).....	385.96	36.33
22 42 39 00-0120	EA	Wall Mount Glass Filler, 1/2" Flanged Female Inlet (Chicago Faucet 313-CP).....	341.35	47.91
22 42 39 00-0121	EA	7" Overall Outlet Height, Deck Mount Glass Filler, 1/2" Flanged Female Inlet (Chicago Faucet 709-CP)	380.61	36.33
22 42 39 00-0122	EA	Wall Mount, Push Button Single Glass Filler (Chicago Faucet 324-CP).....	230.17	52.03
22 42 39 00-0123	EA	Deck Mount, Lever Handle Drinking Faucet (Haws 5054LF).....	452.30	39.44
22 42 39 00-0124	EA	Push Button Bubbler, 1/2" OD (Haws 5017LF).....	458.44	39.44



Plumbing			22
Plumbing Fixtures			22 40
Commercial Plumbing Fixtures			22 42

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 39 00-0125 EA Push Button Bubbler, 3/8" NPT (Haws 5010-6427)	380.80	39.44
22 42 39 00-0126 Automatic Electronic Sensor Faucets (22 42 39)		
22 42 39 00-0127 EA Electronic Lavatory Faucet (American Standard 6055.205.002) For Faucet With Temperature Control, Add	702.49 40.00	85.57
22 42 39 00-0128 EA Electronic Lavatory Gooseneck Faucet (American Standard 6055.105.002) For Faucet With Temperature Control, Add	709.19 40.00	85.57
22 42 39 00-0129 EA Electronic Gooseneck Faucet (Chicago Faucet 116.103.AB.1)	954.38	92.92
22 42 39 00-0130 EA Electronic Lavatory Faucet (Chicago Faucet 116.112.AB.1)	996.57	85.57
22 42 39 00-0131 EA Electronic Soap Dispenser And Faucet Combination (Sloan Optima ESD-30880)	1,485.19	92.92
22 42 39 00-0132 EA Electronic Soap Dispenser And Faucet Combination (Sloan Optima ESD-30880-BDT)	1,862.91	92.92
22 42 39 00-0133 EA Electronic Soap Dispenser And Faucet Combination (Sloan Optima ESD-35187)	1,739.05	92.92
22 42 39 00-0134 EA Solar Powered, Electronic Lavatory Faucet With Integral Mixing Valve (Sloan Solis EAF-275-ISM)	1,210.68	85.57
22 42 39 00-0135 EA Deck Mount, AC Power, Electronic Lavatory Faucet (T&S Brass EC1100)	1,034.16	85.57
22 42 39 00-0136 EA Wall Mount, AC Power, Electronic Lavatory Faucet (T&S Brass EC1101)	1,093.24	85.57
22 42 39 00-0137 EA Deck Mount, AC Power, Spout Version, Electronic Lavatory Faucet (T&S Brass EC1102)	945.54	85.57
22 42 39 00-0138 EA Deck Mount, DC Power, Electronic Lavatory Faucet (T&S Brass EC2100)	1,093.24	85.57
22 42 39 00-0139 EA Deck Mount, DC Power, Spout Version, Electronic Lavatory Faucet (T&S Brass EC2102)	953.77	85.57
22 42 39 00-0140 EA Deck Mount, AC Power, Electronic Lavatory Gooseneck Faucet (T&S Brass EC3100)	953.77	85.57
22 42 39 00-0141 EA Wall Mount, AC Power, Electronic Lavatory Gooseneck Faucet (T&S Brass EC3101)	1,075.24	85.57
22 42 39 00-0142 EA Deck Mount, AC Power, Spout Version, Electronic Lavatory Faucet (T&S Brass EC3102)	910.25	85.57
22 42 39 00-0143 EA 4" Deck Mount, AC Power, Spout Version, Electronic Lavatory Faucet (T&S Brass EC3103)	872.99	85.57
22 42 39 00-0144 EA Self-Generating EcoPower System, Single Supply Sensor Faucet, Standard Spout (Toto "Eco-Power" TEL3GKCN-60)	1,452.12	85.57
22 42 39 00-0145 Singles (22 42 39)		
22 42 39 00-0146 EA Stainless Steel Single Deck Faucet With 6" Swivel/Rigid Gooseneck Spout And Lever Handles (Fisher 58130)	270.29	37.66
22 42 39 00-0147 Other Trim (22 42 39)		
22 42 39 00-0148 EA Faucet Aerator, Male Thread 13/16" Male, 2 GPM (Delta RP330)	19.44	5.57
22 42 39 00-0149 EA 1-1/2" Pop-up Tailpiece (Chicago Faucet 226-ACP)	135.05	16.71
22 42 39 00-0150 EA 1-1/4" Grid Strainer Tailpiece (Chicago Faucet 327-XCP)	52.72	13.93
22 42 39 00-0151 EA 1-1/2" Grid Strainer Tailpiece (Chicago Faucet 327-X1-1/2TPCP)	121.81	13.93
22 42 39 00-0152 EA Lavatory Drainline Guard And Shutoff Covers (IPS Truebro Lav Guard 102)	62.91	15.39
22 42 39 00-0153 EA Soft Lavatory Drainline Guard And Shutoff Covers (IPS Truebro Soft-Guard Plus)	65.78	15.39
22 42 39 00-0154 EA Lavatory Protective Enclosure (IPS Truebro Lav Shield)	163.95	15.39
22 42 39 00-0155 EA 36" Wide, Undersink Protective Enclosure (IPS Truebro Basin Guard)	200.87	15.39
22 42 39 00-0156 EA 42" Wide, Undersink Protective Enclosure (IPS Truebro Basin Guard)	227.69	15.39
22 42 39 00-0157 EA 1/2" NPT x 3/8" Compression Chrome, Quarter Turn Angle Stop (SharkBite 23036)	38.78	10.77
22 42 39 00-0158 EA 1/2" NPT x 3/8" Compression Chrome, Quarter Turn Straight Stop (SharkBite 23037)	38.78	10.77
22 42 39 00-0159 EA 1/2" NPT x 3/8" Compression Chrome, Quarter Turn Dual Angle Stop (SharkBite 25558)	54.49	10.77
22 42 39 00-0160 PR Pair of 16" Long, 3/8" OD x 1/2" IPS, Stainless Steel Braided Sink Supply Line	36.43	11.83
22 42 39 00-0161 EA 12" Long, 3/8" OD x 7/8" BC, Stainless Steel Braided Toilet Supply Line	22.76	6.96
22 42 39 00-0162 EA 12" Long, 1/2" OD x 7/8" BC, Stainless Steel Braided Toilet Supply Line	23.47	6.96
22 42 39 00-0163 Removal And Reinstallation Of Fixtures And Trim (22 42 39)		
Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		
22 42 39 00-0164 EA Removal And Reinstallation Of Faucet	89.13	
22 42 43 Flushometers (22 42)		
22 42 43 00-0001 Water Closet Flush Valves (22 42 43)		
22 42 43 00-0002 EA Exposed Manual Water Closet Flush Valve (Sloan Regal-115XL)	319.69	34.99
22 42 43 00-0003 EA Exposed Manual Water Closet Flush Valve (Sloan Regal-113-1.6)	309.29	34.99
22 42 43 00-0004 EA Exposed Manual Water Closet Flush Valve (Sloan Regal-110 Or 111)	361.54	34.99
22 42 43 00-0005 EA Back Spud, Concealed Manual Water Closet Flush Valve (Sloan Royal-140)	499.52	34.99
22 42 43 00-0006 EA Top Spud, Concealed Manual Water Closet Flush Valve (Sloan Royal-142)	558.24	34.99
22 42 43 00-0007 EA Exposed Infrared Water Closet Flush Valve (Sloan Royal 115-1.6 ES-S)	1,040.34	34.99
22 42 43 00-0008 EA Concealed Infrared Water Closet Flush Valve, Back Spud (Sloan Royal-140 ES-S)	1,036.06	34.99
22 42 43 00-0009 EA Concealed Infrared Water Closet Flush Valve, Top Spud (Sloan Royal-153-1.6-ES-S)	1,095.29	34.99
22 42 43 00-0010 EA Exposed Battery Powered Water Closet Flush Valve (Sloan G2 Optima Plus 8113)	1,015.76	34.99
22 42 43 00-0011 EA Dual Flush Water Closet Flush Valve (Sloan Uppercut WES-115) Note: "Green", 1.6 Gallons or 1.1 Gallons per flush. Includes instructional placards on proper operation.	439.61	34.99
22 42 43 00-0012 EA Exposed Battery Powered Water Closet Flush Valve (Sloan G2 Optima Plus 8110)	812.44	34.99
22 42 43 00-0013 EA Side Mount Battery Powered Water Closet/Urinal Automatic Flush Retrofit Converters (Sloan Optima EBV-89A)	438.09	34.99
22 42 43 00-0014 EA Side Mount Battery Powered Water Closet/Urinal Automatic Flush Retrofit Converters (Technical Concepts 40118X)	435.94	34.99
22 42 43 00-0015 EA Slide Over Handle Battery Powered Water Closet/Urinal Automatic Flush Retrofit Converters (Sloan Optima Smooth EBV-200A)	445.61	30.78
22 42 43 00-0016 EA Slide Over Handle Battery Powered Water Closet/Urinal Automatic Flush Retrofit Converters (Technical Concepts 40180X)	485.53	30.78
22 42 43 00-0017 EA 1.28 GPF, Exposed Infrared Water Closet Flush Valve (Toto EcoPower TET1LN)	1,055.65	34.99
22 42 43 00-0018 EA Exposed Infrared Water Closet Flush Valve (1-1/2" V.B.) 1.28 GPF (Toto EcoPower TET1LN32)	1,158.87	34.99
22 42 43 00-0019 EA 1.28 GPF, Back Spud, Concealed Infrared Water Closet Flush Valve (Toto EcoPower TET2LN31 Or TET3LN31)	1,474.78	34.99
22 42 43 00-0020 EA 1.28 GPF, Top Spud, Concealed Infrared Water Closet Flush Valve (Toto EcoPower TET2LN32 Or TET3LN32)	1,474.78	34.99
22 42 43 00-0021 EA Exposed Manual Water Closet Flush Valve (Zurn Z6000AV)	275.32	34.99

22 Plumbing**22 40 Plumbing Fixtures****22 42 Commercial Plumbing Fixtures**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 42 43 00-0022 EA Exposed Infrared Water Closet Flush Valve (Zurn ZEMS6000AV-HET-IS).....	952.70	34.99
22 42 43 00-0023 EA Exposed Infrared Water Closet Flush Valve (Zurn ZTS6200EV).....	944.52	34.99
22 42 43 00-0024 EA Slide Over Handle AC Powered Water Closet/Urinal Automatic Flush Retrofit Converters (Sloan EL-600-A).....	468.01	30.78
22 42 43 00-0025 EA 6 Volt DC, 120 Volt AC Hardwired Power Transformer (Sloan EL-451).....	146.12	6.16
22 42 43 00-0026 EA Exposed Solar/Battery Powered Water Closet Flush Valve (Sloan Solis 8111-1.28).....	549.65	34.99
22 42 43 00-0027 EA Exposed Manual Water Closet Flush Valve (Zurn Z6000AV-HET).....	345.10	34.99
22 42 43 00-0028 EA Exposed Battery Powered Water Closet Flush Valve (Zurn ZER6000AV-HET).....	965.22	34.99
22 42 43 00-0029 Urinal Flush Valves (22 42 43)		
22 42 43 00-0030 EA 3/4" Top Spud, Exposed Manual Urinal Flush Valve (Sloan Regal 186 XL).....	271.80	34.99
Note: 0.5, 1.0 or 1.5 GPF.		
22 42 43 00-0031 EA 1-1/4" Top Spud, Exposed Manual Urinal Flush Valve (Sloan Regal 180).....	293.93	34.99
Note: 1.0, 1.5 or 3.5 GPF.		
22 42 43 00-0032 EA Back Spud, Concealed Manual Urinal Flush Valve (Sloan Royal 195).....	399.71	34.99
Note: 1.0 or 1.5 GPF.		
22 42 43 00-0033 EA Top Spud, Concealed Manual Urinal Flush Valve (Sloan Royal 197).....	486.85	34.99
Note: 1.0 or 1.5 GPF.		
22 42 43 00-0034 EA Exposed Infrared Urinal Flush Valve (Sloan Royal 186-ES-S).....	774.10	34.99
Note: 1.0 or 1.5 GPF.		
22 42 43 00-0035 EA Back Spud, Concealed Infrared Urinal Flush Valve (Sloan Royal 195-WB-ES-S).....	1,045.26	34.99
Note: 0.5, 1.0 or 1.5 GPF.		
22 42 43 00-0036 EA Top Spud, Concealed Infrared Urinal Flush Valve (Sloan Royal 197-WB-ES-S).....	1,174.40	34.99
Note: 0.5, 1.0 or 1.5 GPF.		
22 42 43 00-0037 EA Top Spud, Exposed Battery Powered Urinal Flush Valve (Sloan G2 Opt+6186-1).....	761.14	34.99
Note: 1.0 GPF.		
22 42 43 00-0038 EA Exposed Infrared Urinal Flush Valve (3/4" V.B.) (Toto EcoPower TEU1LN12).....	1,152.22	34.99
Note: 0.5 GPF.		
22 42 43 00-0039 EA 3/4" Top Spud, Exposed Manual Urinal Flush Valve (Zurn Z6003AV).....	327.86	34.99
Note: 0.5, 1.0 or 1.5 GPF.		
22 42 43 00-0040 EA Top Spud, Exposed Solar/Battery Powered Urinal Flush Valve (Sloan Solis 8186-0.13).....	498.35	34.99
Note: 0.13 GPF.		
22 42 43 00-0041 EA 3/4" Top Spud, Exposed Manual Urinal Flush Valve (Zurn Z6003AV-ULF).....	313.36	34.99
Note: 0.125 GPF.		
22 42 43 00-0042 EA Top Spud, Exposed Battery Powered Urinal Flush Valve (Zurn ZTR6203-ULF).....	822.01	34.99
Note: 0.125 GPF.		
22 42 43 00-0043 EA Exposed Infrared Urinal Flush Valve (Zurn ZEMS6003AV-ULF-IS).....	824.13	34.99
Note: 0.125 GPF.		
22 42 43 00-0044 Removal And Reinstallation Of Fixtures And Trim (22 42 43)		
Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		
22 42 43 00-0045 EA Removal And Reinstallation Of Flush Valve.....	139.27	
22 42 43 00-0046 Plumbing Control Transformers (22 42 43)		
22 42 43 00-0047 EA 6 Volt DC, 120 Volt AC Plug In Style Power Transformer (Zurn P6000-PC6).....	65.78	
22 42 46 Chemical Toilets (22 42)		
Note: Includes toilet, urinal, holding tank, and ventilation system. Building to be priced separately.		
22 42 46 00-0001 Standard Chemical Toilets (22 42 46)		
22 42 46 00-0002 Small Tank Chemical Toilets (22 42 46 00-0001)		
22 42 46 00-0003 EA Chemical Toilet, Small Tank 7,000 Uses/Year.....	4,269.02	1,026.04
For Extra Urinal, Add	139.61	
22 42 46 00-0004 Medium Tank Chemical Toilets (22 42 46 00-0001)		
22 42 46 00-0005 EA Chemical Toilet, Medium Tank 13,000 Uses/Year.....	5,072.75	1,222.03
For Extra Urinal, Add	165.26	
22 42 46 00-0006 Large Tank Chemical Toilets (22 42 46 00-0001)		
22 42 46 00-0007 EA Chemical Toilet, Large Tank 28,000 Uses/Year.....	6,133.58	1,386.19
For Extra Urinal, Add	225.54	
22 43 Healthcare Plumbing Fixtures (22 40)		
22 43 13 Healthcare Water Closets (22 43)		
22 43 13 00-0001 Healthcare Water Closets (22 43 13)		
22 43 13 00-0002 EA Flush Valve Type, Siphon Jet, Floor Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Healthcare Water Closet With Bedpan Holding Rim (American Standard Priolo® ADA).....	818.11	106.71
22 43 13 00-0003 EA Flush Valve Type, Siphon Jet, Floor Mounted, Floor Outlet, Handicap Accessible, Elongated Vitreous China Healthcare Water Closet With Bedpan Holding Rim (American Standard Madera™ ADA).....	663.10	106.71
22 43 16 Healthcare Sinks (22 43)		



Plumbing			22
Plumbing Fixtures			22 40
Healthcare Plumbing Fixtures			22 43

MINOR				TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION				UNIT COST		UNIT COST	
22 43 16 00-0001 Healthcare Sinks (22 43 16)							
Note: Includes trap, drain and supply valves. Excludes faucets and flush valves.							
22 43 16 00-0002	EA	25" x 21", Wall Mounted, Blow Out Flushing Rim, Vitreous China Clinic Service Sink (American Standard)	1,231.60		68.74		
For Stainless Steel Rim Guards (Three Sides), Add			108.61				
22 43 16 00-0003	EA	29" x 20", Floor Mounted, Siphon Jet Flushing Rim, Vitreous China Clinic Service Sink (American Standard)	1,322.93		197.51		
For Stainless Steel Rim Guards (Three Sides), Add			108.61				
For Pedestal Base, Add			497.95				
22 43 16 00-0004	EA	28" x 22", Wall Mounted, Vitreous China Surgeon's Scrub Sink (American Standard)	1,183.79		68.74		
For Painted Bracket Supports, Add			174.90				
22 43 16 00-0005	EA	20" x 17", Wall Mounted, Vitreous China Intensive Care Unit Sink (American Standard)	1,040.35		68.74		
22 43 16 00-0006 Surgical Scrub Sinks (22 43 16)							
22 43 16 00-0007	EA	25" Wide x 20" Deep x 43" High Single Surgical Scrub Sink (FHCSS25-IR)	5,251.17		153.91		
Note: Features infra red sensor operated water, under counter mixing valve, swivel gooseneck spout with aerator. Unit will be supported by a z-bracket and main support bracket supplied with the sink.							
22 43 16 00-0008	EA	32" Wide x 27-1/2" Deep x 37-1/8" High Single Surgical Scrub Sink (FHCSS32)	8,056.30		205.21		
Note: Features knee operated water and soap, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z-bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support. 14 gauge 304 SS and skirts are 16 gauge 304 SS.							
22 43 16 00-0009	EA	32" Wide x 27-1/2" Deep x 37-1/8" High Single Surgical Scrub Sink (FHCSS32-IR)	8,056.30		205.21		
Note: Features infra red sensor operated water, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z-bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support. 14 gauge 304 SS and skirts are 16 gauge 304 SS.							
22 43 16 00-0010	EA	64" Wide x 27-1/2" Deep x 37-1/8" High Double Surgical Scrub Sink (FHCSS64)	10,636.21		256.51		
Note: Features knee operated water and soap, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z-bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support. 14 gauge 304 SS and skirts are 16 gauge 304 SS.							
22 43 16 00-0011	EA	64" Wide x 27-1/2" Deep x 37-1/8" High Double Surgical Scrub Sink (FHCSS64-IR)	10,636.21		256.51		
Note: Features infra red sensor operated water, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z-bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support. 14 gauge 304 SS and skirts are 16 gauge 304 SS.							
22 43 16 00-0012	EA	96" Wide x 27-1/2" Deep x 37-1/8" High Triple Surgical Scrub Sink (FHCSS96)	13,891.76		307.81		
Note: Features knee operated water and soap, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z-bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support. 14 gauge 304 SS and skirts are 16 gauge 304 SS.							
22 43 16 00-0013	EA	96" Wide x 27-1/2" Deep x 37-1/8" High Triple Surgical Scrub Sink (FHCSS96-IR)	13,891.76		307.81		
Note: Features infra red sensor operated water, adjustable water temperature, faucet with rose spray aerator, wall mounted or free standing, large scrub area, sloped bottom to minimize splash. Unit will be supported by a z-bracket and two main brackets supplied with the sink. It is recommended that a chair carrier be used for support. 14 gauge 304 SS and skirts are 16 gauge 304 SS.							
22 43 16 00-0014	EA	Single Chair Carrier (FHC P-617106-846)	548.03		76.96		
22 43 16 00-0015	EA	Double Chair Carrier (FHC P-617106-851)	580.81		82.08		
22 43 16 00-0016	EA	Triple Chair Carrier (FHC P-617106-852)	636.11		87.21		
22 43 16 00-0017	EA	60" Wide x 23" Deep x 38-1/4" High, 2.2 GPM, Laminar Flow Spray Head, Chrome Color Finish, Wall Mounted, Stainless Steel Scrub Sink (Sloan ESS-2100-C)	12,834.21		102.60		
22 43 23 Healthcare Showers (22 43)							
22 43 23 00-0001 Gel-Coated Fiberglass Showers (22 43 23)							
22 43 23 00-0002	EA	62" x 34" x 80" ADA/Special Needs, Gel Coat Fiberglass Barrier Free Shower Enclosure (Florestone 35-62H)	3,060.00		205.21		
Note: Includes stainless steel curtain rod, Symmons® pressure balance mixing valve with concealed check stops, Moen® hand-held shower head with hose and stainless steel slide bar/grab bar, stainless steel corner grab bar, stainless steel recessed soap dish, white naugahyde folding wheelchair transfer seat, and 2" brass drain.							
22 43 23 00-0003	EA	Three Piece 62" x 34" x 80" ADA/Special Needs, Gel Coat Fiberglass Barrier Free Shower Enclosure (Florestone 35-62H)	3,186.84		184.68		
Note: Includes stainless steel curtain rod, Symmons® pressure balance mixing valve with concealed check stops, Moen® hand-held shower head with hose and stainless steel slide bar/grab bar, stainless steel corner grab bar, stainless steel recessed soap dish, white naugahyde folding wheelchair transfer seat, and 2" brass drain.							
22 43 39 Healthcare Faucets (22 43)							
22 43 39 00-0001 Medical Faucet Spouts (22 43 39)							
22 43 39 00-0002	EA	Deck Mounted, Rigid Gooseneck Medical Lavatory Spout (American Standard 7522)	100.03		15.39		
22 43 39 00-0003 Electronic Proximity Medical Faucets (22 43 39)							
22 43 39 00-0004	EA	DC Or Plug-In AC Powered, Single Inlet, Electronic Proximity Medical Lavatory Faucet (American Standard Selectronic™ ICU)	572.17		75.31		
For Hard Wired AC Powered, Add			24.73				
22 43 39 00-0005 Foot And Knee Faucet Controls (22 43 39)							
22 43 39 00-0006	EA	Single Supply Metering Pedal Valve (Chicago Faucet 628)	424.88		136.87		

22 Plumbing**22 40 Plumbing Fixtures****22 43 Healthcare Plumbing Fixtures**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 43 39 00-0007	EA	Double Supply Metering Pedal Valve (Chicago Faucet 625)	501.97	136.87
22 43 39 00-0008	EA	Knee Actuated Metering Mixing Valve (Chicago Faucet 745-VOCP)	1,096.14	136.87
22 43 39 00-0009	EA	Double Knee Actuated Metering Mixing Valve (American Standard 7676)	663.80	136.87
22 43 39 00-0010		Centerset Medical Faucets (22 43 39)		
22 43 39 00-0011	EA	Rigid Gooseneck Centerset Medical Lavatory Faucet, 8" Centers 6" Wrist Action Handles, Adjustable Centers (T&S B-0865-04)	598.15	75.31
22 43 39 00-0012	EA	Swivel Gooseneck Centerset Medical Lavatory Faucet, 8" Centers, 6" Wrist Action Handles, Adjustable Centers (T&S B-0866-04)	605.14	75.31
22 43 39 00-0013	EA	Swivel Gooseneck Centerset Medical Lavatory Faucet With Aerator 8" Centers, 6" Wrist Action Handles, Adjustable Centers (T&S B-0867-04)	604.43	75.31
22 43 39 00-0014	EA	Surgical Sink Rigid Gooseneck Faucets, 8" Centers, 6" Wrist Action Handles (T&S B-0322-04)	538.11	75.31
22 43 39 00-0015	EA	Surgical Sink Rigid Gooseneck Faucets With Stream Regulator Outlet, 8" Centers, 6" Wrist Action Handles (T&S B-0323-04)	514.37	75.31
22 43 39 00-0016		Bedpan Washers (22 43 39)		
22 43 39 00-0017	EA	Self Closing Pedal Valve Bed Pan Washer, With Volume Control, Vacuum Breaker, Wall Hook Hose Connection, Polyvinyl Chloride Hose (T&S B-0675)	1,428.19	136.87
22 43 39 00-0018	EA	Pedal Valve Bed Panwasher With Volume Control Valve, Vacuum Breaker, Wall Hook Hose Connection, Extended Spray Polyvinyl Chloride Hose (T&S B-0676)	1,355.09	136.87
22 43 39 00-0019	EA	Self Closing Single Pedal Valve Bedpan Washer With Volume Control, Vacuum Breaker, Wall Hook Hose Connection Polyvinyl Chloride Hose (T&S B-0685)	1,333.43	136.87
22 43 39 00-0020	EA	Single Pedal Valve Bedpan Washer With Volume Control, Vacuum Breaker, Wall Hook Hose Connection, Polyvinyl Chloride Hose, Extended Spray (T&S B-0686)	1,312.37	136.87
22 43 43		Healthcare Plumbing Fixture Flushometers (22 43)		
22 43 43 00-0001		Healthcare Plumbing Fixture Flushometers (22 43 43)		
22 43 43 00-0002	EA	Exposed Manual Service Sink Flush Valve (Sloan Royal-117)	227.90	34.99
22 43 43 00-0003	EA	Exposed Manual Water Closet Flush Valve With Bedpan Washer (Sloan Slimline BPW)	506.92	34.99
22 43 46		Healthcare Patient Care Units (22 43)		
22 43 46 00-0001		Patient Care Units (22 43 46)		
22 43 46 00-0002	EA	47" Swivel Toilet Modular Sink And Water Closet Patient Care Unit (Willoughby WH-1700-AQCT-WB-BWSEV)	19,751.99	205.21
		For SDB Single Temperature Dialysis Box, Add	1,450.35	
		For DDB Dual Temperature Dialysis Box, Add	1,540.44	
		For BWSEV Bedpan Washer With Elevated Valve, Add	1,108.80	
		For LOCK Flush Valve Lockout Device, Add	817.51	
22 43 46 00-0003	EA	31" Swing Front Cabinet Modular Sink And Water Closet Patient Care Unit (Willoughby WH-2600-SST-DC-AQCT-WB)	15,555.06	179.56
		For SDB Single Temperature Dialysis Box, Add	1,450.35	
		For DDB Dual Temperature Dialysis Box, Add	1,540.44	
		For BWSEV Bedpan Washer With Elevated Valve, Add	1,108.80	
		For LOCK Flush Valve Lockout Device, Add	817.51	
22 43 46 00-0004		Patient Care Plumbing Accessories (22 43 46)		
22 43 46 00-0005	EA	One Valve Supply Recessed Stainless Steel Dialysis Box With Locking Door (Bradley 7920)	1,885.36	27.86
22 43 46 00-0006	EA	Two Valve Supply Recessed Stainless Steel Dialysis Box With Locking Door (Bradley 7919)	2,077.69	27.86
22 45		Emergency Plumbing Fixtures (22 40)		
22 45 13		Emergency Showers (22 45)		
22 45 13 00-0001		Emergency Drench Showers (22 45 13)		
22 45 13 00-0002		Emergency Drench Showers (Haws) (22 45 13 00-0001)		
		Note: Includes one pull rod.		
22 45 13 00-0003	EA	Horizontal Or Vertical Mounted, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead (Haws 8122)	686.58	179.56
22 45 13 00-0004	EA	Horizontal Or Vertical Mounted, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead (Haws 8123)	788.20	179.56
22 45 13 00-0005	EA	Horizontal Mounted, Barrier-Free, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead (Haws 8122HWC)	844.66	179.56
22 45 13 00-0006	EA	Horizontal Or Vertical Mounted, Corrosion Resistant, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead (Haws 8130)	1,014.04	179.56
22 45 13 00-0007	EA	Horizontal Mounted, All Stainless Steel, Corrosion Resistant, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead (Haws 8133H)	1,364.08	179.56
22 45 13 00-0008	EA	Floor Mounted, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead (Haws 8100)	1,076.63	205.21
22 45 13 00-0009	EA	Wall Mounted, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Stainless Steel Push Flag (Haws 8111FP)	1,178.74	230.86
22 45 13 00-0010	EA	Flush To Ceiling, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead (Haws 8169)	1,071.47	230.86
22 45 13 00-0011	EA	Concealed Ceiling Supply, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead (Haws 8163)	1,094.06	230.86
22 45 13 00-0012	EA	Flush To Ceiling, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead And Pull Down Lever Ball Valve Mounted In A Recessed Stainless Steel Cabinet (Haws 8164)	1,517.49	230.86



Plumbing			22
Plumbing Fixtures			22 40
Emergency Plumbing Fixtures			22 45

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 45 13 00-0013			Emergency Drench Showers (Speakman) (22 45 13 00-0001) Note: Includes one pull rod.		
22 45 13 00-0014	EA		Vertical Mounted, Lifesaver® Emergency Drench Shower With Plastic Showerhead (Speakman SE-220).....	606.39	179.56
22 45 13 00-0015	EA		Horizontal Mounted, Lifesaver® Emergency Drench Shower With Plastic Showerhead (Speakman SE-227).....	624.86	179.56
22 45 13 00-0016	EA		Floor Mounted, Lifesaver® Emergency Drench Shower With Plastic Showerhead (Speakman SE-253).....	986.02	205.21
22 45 13 00-0017			Emergency Drench Showers (WaterSaver) (22 45 13 00-0001) Note: Includes one pull rod.		
22 45 13 00-0018	EA		Emergency Shower, Vertically Mounted (WaterSaver ES635).....	832.09	179.56
22 45 13 00-0019	EA		Emergency Shower, Horizontally Mounted (WaterSaver ES643).....	852.78	179.56
22 45 13 00-0020	EA		All-Stainless Steel, Emergency Shower, Horizontally Mounted (WaterSaver ES691).....	1,865.68	179.56
22 45 13 00-0021	EA		Emergency Shower, Recess Mounted (WaterSaver ES629).....	1,331.37	230.86
22 45 13 00-0022	EA		Emergency Shower, Semi-Concealed (WaterSaver ES658).....	1,799.35	230.86
22 45 13 00-0023			Emergency Drench Showers (Guardian) (22 45 13 00-0001)		
22 45 13 00-0024	EA		11-3/4" Bowl Diameter, 20 GPM, 2 Spray Heads, Height Impact Plastic, Flip Top Dust Covers, Pull Handle Activator, Emergency Wash Station Drench Shower (Guardian G1902P).....	1,151.77	205.21
22 45 13 00-0025			Emergency Drench Showers (Hughes) (22 45 13 00-0001)		
22 45 13 00-0026	EA		41-5/16" Length x 40-13/16" Width x 94-13/16" Height, Covered ABS Eye/Face Wash, Emergency Cubicle Shower (Hughes SD32K45G).....	9,589.61	205.21
22 45 13 00-0027	EA		30-13/16" Length x 19-13/16" Width x 103" Height, Floor Mounted, Closed ABS Bowl, Galvanized Pipe, Top Inlet, Floor Mounted, Emergency Shower Station (Hughes 18G45GT).....	1,563.44	205.21
22 45 16			Eyewash Equipment (22 45)		
22 45 16 00-0001			Emergency Eyewash Equipment (22 45 16)		
22 45 16 00-0002			Emergency Eyewash Equipment (Haws) (22 45 16 00-0001)		
22 45 16 00-0003	EA		Faucet Mounted, Stainless Steel Emergency Eyewash (Haws Axion® eyePOD® 7620).....	303.84	5.13
22 45 16 00-0004	EA		Wall Mounted, Freeze Protected, Emergency Eye Wash With Soft-Flo Heads And Stainless Steel Bowl (Haws 7433FP).....	1,427.16	230.86
22 45 16 00-0005			Emergency Eyewash Equipment (WaterSaver) (22 45 16 00-0001)		
22 45 16 00-0006	EA		Auto Flow, Right Hand Mounting, Emergency Eye Wash, Deck Mounted (WaterSaver EW805).....	847.89	51.30
22 45 16 00-0007	EA		Auto Flow, Left Hand Mounting, Emergency Eye Wash, Deck Mounted (WaterSaver EW805LH).....	847.89	51.30
22 45 16 00-0008	EA		Right Hand Mounting, Emergency Eye Wash, Deck Mounted (WaterSaver EW806).....	863.56	51.30
22 45 16 00-0009	EA		Left Hand Mounting, Emergency Eye Wash, Deck Mounted (WaterSaver EW806LH).....	863.56	51.30
22 45 16 00-0010	EA		Stainless Steel Bowl, Emergency Eye Wash, Deck Mounted (WaterSaver EW822).....	1,151.26	51.30
22 45 16 00-0011	EA		Swing-Down, Auto Flow, Emergency Eye Wash, Wall Mounted (WaterSaver EW848).....	1,313.34	51.30
22 45 16 00-0012	EA		Swing-Down, Auto Flow, Emergency Eye Wash, Deck Mounted (WaterSaver EW849).....	1,313.34	51.30
22 45 16 00-0013	EA		Right Hand Mounting, All-Stainless Steel, Emergency Eye Wash, Deck Mounted (WaterSaver EW893).....	2,443.74	51.30
22 45 16 00-0014	EA		Left Hand Mounting, All-Stainless Steel, Emergency Eye Wash, Deck Mounted (WaterSaver EW893LH).....	2,443.74	51.30
22 45 16 00-0015	EA		Right Hand Mounting, Auto Flow, All-Stainless Steel, Emergency Eye Wash, Deck Mounted (WaterSaver EW895).....	2,557.78	51.30
22 45 16 00-0016	EA		Left Hand Mounting, Auto Flow, All-Stainless Steel, Emergency Eye Wash, Deck Mounted (WaterSaver EW895LH).....	2,557.78	51.30
22 45 16 00-0017	EA		Swing-Down, Auto Flow, All-Stainless Steel, Emergency Eye Wash, Wall Mounted (WaterSaver EW898).....	3,157.91	51.30
22 45 16 00-0018	EA		Swing-Down, Auto Flow, All-Stainless Steel, Emergency Eye Wash, Deck Mounted (WaterSaver EW899).....	3,157.91	51.30
22 45 16 00-0019	EA		Ball Valve With Flag Handle, Emergency Eye Wash, Recess Deck Mounted (WaterSaver EW808).....	1,541.67	179.56
22 45 16 00-0020	EA		Push-Down Valve, Emergency Eye Wash, Recess Deck Mounted (WaterSaver EW810).....	1,519.55	179.56
22 45 16 00-0021	EA		Stainless Steel Bowl, Emergency Eye Wash, Wall Mounted (WaterSaver EW814).....	1,083.56	179.56
22 45 16 00-0022	EA		Stainless Steel Bowl And Cover, Emergency Eye Wash, Wall Mounted (WaterSaver EW814BC).....	1,543.34	179.56
22 45 16 00-0023	EA		Plastic Bowl, Emergency Eye Wash, Wall Mounted (WaterSaver EW814P).....	919.40	179.56
22 45 16 00-0024			Emergency Eyewash Equipment (Fendall) (22 45 16 00-0001)		
22 45 16 00-0025	EA		7 Gallon Capacity, 15-minute Constant Flow, Plastic, Mounted Eyewash Station (Fendall H-3838)..... Note: Includes emergency sign, installation DVD, mounting bracket and tamper seal	644.12	55.71
22 45 16 00-0026			Emergency Eyewash Equipment (Porta Stream) (22 45 16 00-0001)		
22 45 16 00-0027	EA		26" Height x 20" Width x 20" Depth, 16 Gallon Capacity, Eyewash Station (Porta Stream II H-1142).....	477.88	37.10
22 45 16 00-0028			Emergency Eyewash Equipment (Pure Flow) (22 45 16 00-0001)		
22 45 16 00-0029	EA		30" Height x 29" Width x 23" Depth, 0.4 GPM Constant Flow, 7 Gallon Capacity, Eyewash Station (Pure Flow 1000 H-1297).....	618.75	55.71
22 45 16 00-0030			Emergency Eyewash Equipment (U-Line) (22 45 16 00-0001)		
22 45 16 00-0031	EA		11-1/2" Bowl Diameter, Twin Spray Heads, Flip-top Dust Covers, Plastic, Mounted Eyewash Station (U-Line H- 5457)..... Note: Includes emergency sign and inspection tag	686.66	222.83

22 Plumbing**22 40 Plumbing Fixtures****22 45 Emergency Plumbing Fixtures**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 45 16 00-0032	EA		11-1/2" Bowl Diameter, Twin Spray Heads, Flip-top Dust Covers, Stainless Steel, Mounted Eyewash Station (U-Line H-5795).....	774.29	222.83
			Note: Includes emergency sign and inspection tag		
22 45 16 00-0033	EA		20" Height x 11" Width x 14" Depth, 3-minute Constant Flow, 1 Gallon Capacity, Pull Strap Activation, Wall Mounted Or Tabletop Use Flash Flood Eyewash Station (U-Line H-7917).....	246.12	37.10
22 45 16 00-0034	EA		1" Head Diameter, Single Faucet With Easy Pull-knob, Faucet Mounted Eyewash Station (U-Line H-5100).....	138.57	18.60
22 45 23 Personal Eyewash Equipment (22 45)					
22 45 23 00-0001			Portable Eyewash Equipment (22 45 23)		
22 45 23 00-0002			Portable Eyewash Equipment (Bradley) (22 45 23 00-0001)		
22 45 23 00-0003	EA		Wall Mounted, Portable Gravity Fed Eyewash Unit With Clear Tank (Bradley S19-921).....	303.18	15.39
22 45 23 00-0004	EA		Wall Mounted, Portable Gravity Fed Eyewash Unit With Insulated Heater Jacket (Bradley S19-921H).....	1,594.38	15.39
22 45 23 00-0005	EA		5 Gallon Portable Pressurized Tank With Eyewash Only (Bradley S19-671).....	727.80	
22 45 23 00-0006	EA		5 Gallon Portable Pressurized Tank With Eyewash And 8' Drench Hose For Facewash (Bradley S19-672).....	868.20	
22 45 26 Eye/Face Wash Equipment (22 45)					
22 45 26 00-0001			Emergency Eye/Face Wash Equipment (22 45 26)		
22 45 26 00-0002			Emergency Eye/Face Wash Equipment (Haws) (22 45 26 00-0001)		
22 45 26 00-0003	EA		Unmounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7460).....	747.70	128.26
			Note: Excludes p-trap and tailpiece.		
22 45 26 00-0004	EA		Wall Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly Without Receptor (Haws 7324).....	748.68	179.56
22 45 26 00-0005	EA		Wall Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 7260B-7270B).....	731.75	179.56
			Note: Excludes p-trap and tailpiece.		
22 45 26 00-0006	EA		Wall Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 7260BT-7270BT).....	798.37	179.56
			Note: Excludes p-trap and tailpiece.		
22 45 26 00-0007	EA		Wall Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7360B-7460B).....	805.14	179.56
			Note: Excludes p-trap and tailpiece.		
22 45 26 00-0008	EA		Wall Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7360BT-7460BT).....	885.31	179.56
			Note: Excludes p-trap and tailpiece.		
22 45 26 00-0009	EA		Wall Mounted, Barrier-Free, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7360BTWC).....	1,206.00	179.56
22 45 26 00-0010	EA		Wall Mounted, All Stainless Steel, Corrosion Resistant, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl And Dust Cover (Haws 7778B).....	2,278.71	179.56
22 45 26 00-0011	EA		Pedestal Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 7261-7271).....	918.55	205.21
22 45 26 00-0012	EA		Pedestal Mounted, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7361-7461).....	1,048.40	205.21
22 45 26 00-0013	EA		Pedestal Mounted, All Stainless Steel, Corrosion Resistant, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 7777).....	2,358.24	205.21
22 45 26 00-0014	EA		Sink Mounted, Swing-Away, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 7611).....	627.66	51.30
22 45 26 00-0015	EA		Right Side Sink Mounted, Swing-Away, Emergency Eye/Face Wash With Stainless Steel Axion® MSR Wash Head Assembly (Haws 7612).....	605.08	51.30
22 45 26 00-0016	EA		Left Side Sink Mounted, Swing-Away, Emergency Eye/Face Wash With Stainless Steel Axion® MSR Wash Head Assembly (Haws 7612LH).....	633.31	51.30
22 45 26 00-0017	EA		Wall Or Deck Mounted, Barrier-Free, Swing-Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 7610).....	797.04	51.30
22 45 26 00-0018	EA		Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Cabinet (Haws 7655WCC).....	1,935.77	256.51
22 45 26 00-0019	EA		Surface Wall Mounted, Wheelchair Accessible, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Cabinet (Haws 7655WCCSM).....	2,346.95	205.21
22 45 26 00-0020	EA		Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Cabinet And Drain Pan (Haws 7656WCC).....	2,410.03	256.51
22 45 26 00-0021	EA		Surface Wall Mounted, Wheelchair Accessible, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Cabinet And Drain Pan (Haws 7656WCCSM).....	2,832.49	205.21
22 45 26 00-0022 Emergency Eye/Face Wash Equipment (Speakman) (22 45 26 00-0001)					
22 45 26 00-0023	EA		Wall Mounted, Lifesaver® Emergency Eye/Face Wash And Plastic Bowl (Speakman SE-495).....	683.34	179.56
22 45 26 00-0024	EA		Floor Mounted, DuraJade™ Finish, Lifesaver® Emergency Eye/Face Wash And Plastic Bowl (Speakman SE-496).....	838.27	205.21
22 45 26 00-0025 Emergency Eye/Face Wash Equipment (WaterSaver) (22 45 26 00-0001)					
22 45 26 00-0026	EA		Wide Area, Emergency Eye/Face Wash With Stainless Steel Bowl, Wall Mounted (WaterSaver FE724).....	1,372.09	179.56
22 45 26 00-0027	EA		Wide Area, Emergency Eye/Face Wash With Stainless Steel Bowl And Cover, Wall Mounted (WaterSaver FE724BC).....	1,831.88	179.56
22 45 26 00-0028	EA		Wide Area, Push-Down Valve, Emergency Eye/Face Wash, Recess Deck Mounted (WaterSaver FE727).....	1,773.43	179.56
22 45 26 00-0029	EA		Push-Down Valve, Emergency Eye/Face Wash, Recess Deck Mounted (WaterSaver FE765).....	1,633.95	179.56
22 45 26 00-0030	EA		Auto Flow, Right Hand Mounting, Emergency Eye/Face Wash, Deck Mounted (WaterSaver FE774).....	893.52	51.30
22 45 26 00-0031	EA		Auto Flow, Left Hand Mounting, Emergency Eye/Face Wash, Deck Mounted (WaterSaver FE774LH).....	893.52	51.30
22 45 26 00-0032	EA		Right Hand Mounting, Emergency Eye/Face Wash, Deck Mounted (WaterSaver FE775).....	866.31	51.30
22 45 26 00-0033	EA		Left Hand Mounting, Emergency Eye/Face Wash, Deck Mounted (WaterSaver FE775LH).....	866.31	51.30



Plumbing			22
Plumbing Fixtures			22 40
Emergency Plumbing Fixtures			22 45

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 45 26 00-0034	EA		Swing-Down, Auto Flow, Emergency Eye/Face Wash, Wall Mounted (WaterSaver FE778).....	1,333.79	51.30
22 45 26 00-0035	EA		Swing-Down, Auto Flow, Emergency Eye/Face Wash, Deck Mounted (WaterSaver FE779).....	1,333.79	51.30
22 45 26 00-0036			Emergency Eye/Face Wash Equipment (Guardian) (22 45 26 00-0001) Note: Includes one pull rod.		
22 45 26 00-0037	EA		All-Stainless Steel Handicapped Accessible Safety Station With WideArea™ Eye/Face Wash (Guardian GBF1994).....	5,548.98	179.56
22 45 29			Hand-Held Emergency Drench Hoses (22 45)		
22 45 29 00-0001			Hand-Held Emergency Eye/Face/Body Wash With Hose (22 45 29)		
22 45 29 00-0002			Hand-Held Emergency Eye/Face/Body Wash With Hose (Haws) (22 45 29 00-0001)		
22 45 29 00-0003	EA		Counter Mounted, Hand-Held Emergency Eye/Face/Body Wash With Axion® MSR Wash Head Assembly And 8' Hose (Haws 8904).....	670.26	64.13
22 45 29 00-0004	EA		Wall Mounted, Hand-Held Emergency Eye/Face/Body Wash With Axion® MSR Wash Head Assembly And 12' Recoil Hose (Haws 8905).....	771.89	64.13
22 45 29 00-0005			Hand-Held Emergency Eye/Face/Body Wash With Hose (WaterSaver) (22 45 29 00-0001)		
22 45 29 00-0006	EA		Emergency Drench Hose Unit, Deck Mounted (WaterSaver EW1020)	676.60	64.13
22 45 29 00-0007	EA		Emergency Drench Hose Unit, Wall Mounted (WaterSaver EW1025).....	621.99	64.13
22 45 29 00-0008	EA		Emergency Eye Wash Drench Hose Unit, Wall Mounted (WaterSaver EW1014)	943.28	64.13
22 45 29 00-0009	EA		Emergency Eye Wash Drench Hose Unit, Deck Mounted (WaterSaver EW1022).....	882.51	64.13
22 45 29 00-0010	EA		Emergency Eye Wash Drench Hose Unit, Wall Mounted (WaterSaver EW1026)	904.27	64.13
22 45 29 00-0011	EA		Ball Valve With Flag Handle, Emergency Eye Wash Drench Hose Unit, Deck Mounted (WaterSaver EW1028).....	1,190.78	64.13
22 45 29 00-0012	EA		Ball Valve With Flag Handle And Vacuum Breaker, Emergency Eye Wash Drench Hose Unit, Deck Mounted (WaterSaver EW1028VB).....	1,381.33	64.13
22 45 29 00-0013	EA		Emergency Eye Wash Drench Hose Unit, 45 Degree Panel Mounted (WaterSaver EW1041)	1,316.71	64.13
22 45 33			Combination Emergency Fixture Units (22 45)		
22 45 33 00-0001			Emergency Shower With Eye/Face Wash (22 45 33)		
22 45 33 00-0002			Emergency Shower With Eye/Face Wash (Haws) (22 45 33 00-0001)		
22 45 33 00-0003	EA		Floor Mounted, All Stainless Steel, Corrosion Resistant, Emergency Drench Shower With Axion® MSR Stainless Steel Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 8330).....	3,969.75	333.47
22 45 33 00-0004	EA		Floor Mounted, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eyewash With Soft-Flo Heads And Stainless Steel Bowl (Haws 8300FP)	2,682.50	333.47
			Note: Includes freeze protection bury valve.		
22 45 33 00-0005	EA		Floor Mounted, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 8300-8309)	1,863.85	333.47
22 45 33 00-0006	EA		Floor Mounted, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eyewash With Soft-Flo Heads And Stainless Steel Bowl (Haws 8300.158).....	2,976.08	333.47
22 45 33 00-0007	EA		Floor Mounted, Corrosion Resistant, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 8300CRP-8309CRP)	2,180.02	333.47
22 45 33 00-0008	EA		Floor Mounted, Barrier-Free, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Stainless Steel Bowl (Haws 8309WC)	2,050.16	333.47
22 45 33 00-0009	EA		Floor Mounted, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 8317)	1,750.93	333.47
22 45 33 00-0010	EA		Floor Mounted, Corrosion Resistant, PVC Plastic, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 8336).....	2,874.46	333.47
22 45 33 00-0011	EA		Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly With Stainless Steel Cabinet And Ceiling Mounted Axion® MSR Stainless Steel Showerhead (Haws 8355WCC).....	3,151.10	333.47
22 45 33 00-0012	EA		Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly With Stainless Steel Cabinet And Wall Mounted Axion® MSR Stainless Steel Showerhead (Haws 8355WCW).....	3,213.21	333.47
22 45 33 00-0013	EA		Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly With Stainless Steel Cabinet And Drain Pan And Ceiling Mounted Axion® MSR Stainless Steel Showerhead (Haws 8356WCC).....	3,591.48	333.47
22 45 33 00-0014	EA		Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly With Stainless Steel Cabinet And Drain Pan, Daylight Drain And Wall Mounted Axion® MSR Stainless Steel Showerhead (Haws 8356WCDD).....	3,811.67	333.47
22 45 33 00-0015	EA		Recessed Wall Mounted, Barrier-Free, Pull Down, Emergency Eye/Face Wash With Axion® MSR Wash Head Assembly With Stainless Steel Cabinet And Drain Pan And Wall Mounted Axion® MSR Stainless Steel Showerhead (Haws 8356WCW).....	3,749.56	333.47
22 45 33 00-0016	EA		Floor Mounted, 120 Volt AC Cable Heated, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 8317CTFP).....	5,612.69	333.47
22 45 33 00-0017	EA		Floor Mounted, 220 Volt AC Cable Heated, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 8317CTFP.220V).....	5,917.57	333.47
22 45 33 00-0018	EA		Floor Mounted, C1D1 Rated, 120 Volt AC Cable Heated, Freeze Protected, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly (Haws 8317CTFPC1D1).....	12,523.21	333.47
22 45 33 00-0019	EA		Floor Mounted, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 8320-8325).....	1,750.93	333.47
22 45 33 00-0020	EA		Floor Mounted, Corrosion Resistant, Emergency Drench Shower With Axion® MSR ABS Plastic Showerhead And Eye/Face Wash With Axion® MSR Wash Head Assembly And Plastic Bowl (Haws 8320CRP).....	1,982.41	333.47

22 Plumbing**22 40 Plumbing Fixtures****22 45 Emergency Plumbing Fixtures**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 45 33 00-0021		Emergency Shower With Eye/Face Wash (Speakman) (22 45 33 00-0001)		
22 45 33 00-0022	EA	Floor Mounted, Emergency Drench Shower With Plastic Showerhead And Eye/Face Wash With Plastic Bowl (Speakman SE-690)	1,665.13	333.47
22 45 33 00-0023	EA	3.18 GPM, 1-1/4" IPS Galvanized Steel Piping, Durajade Powder-Coat, Yellow Bowl Color, ADA compliant, Push-handle Activated, Pull-rod Shower, Brass Fittings, Floor Mounted, Combination Emergency Station (Speakman SE-697)	1,096.47	205.21
22 45 33 00-0024		Emergency Shower With Eye/Face Wash (WaterSaver) (22 45 33 00-0001)		
22 45 33 00-0025	EA	All-Stainless Steel, Wide Area, Emergency Shower With Eye/Face Wash Station, Floor Mounted (WaterSaver SS994).....	6,251.20	278.55
22 45 33 00-0026	EA	Polished Chrome Construction, Wide Area, Emergency Shower With Eye/Face Wash Station, Floor Mounted (WaterSaver SS909PCC).....	6,389.77	278.55
22 45 33 00-0027	EA	Emergency Shower With Eye Wash Station And Stainless Steel Bowl, Floor Mounted (WaterSaver SS902)	2,484.55	278.55
22 45 33 00-0028	EA	Emergency Shower With Eye Wash Station And Plastic Bowl, Floor Mounted (WaterSaver SS902P)	2,268.96	278.55
22 45 33 00-0029	EA	Emergency Shower With Eye Wash Station And Stainless Steel Bowl And Cover, Floor Mounted (WaterSaver SS902BC).....	2,944.34	278.55
22 45 33 00-0030		Emergency Shower With Eye/Face Wash (Guardian) (22 45 33 00-0001)		
22 45 33 00-0031	EA	Emergency Eye Wash Station With Plastic Bowl And Shower Head (Guardian H-5101)	1,281.62	222.83
22 45 33 00-0032	EA	Emergency Eye Wash Station With Stainless Steel Bowl And Shower Head (Guardian H-6618)	2,578.77	222.83
22 45 33 00-0033	EA	Emergency Eye Wash Station With Plastic Bowl And Shower Head (J-Line H-6697)	1,079.84	222.83
22 45 33 00-0034		Emergency Shower With Eye/Face Wash (Hughes) (22 45 33 00-0001)		
22 45 33 00-0035	EA	120 Volt, 35-13/64" Length x 14-45/64" Width x 104-1/2" Height, Freeze Protected, ABS Bowl, Floor Mounted, Emergency Shower Station (Hughes H5G45G-1H).....	3,497.05	205.21
22 45 33 00-0036	EA	29-1/2" Length x 12-13/32" Width x 103" Height, Open ABS Bowl, Galvanized Pipe, Floor Mounted, Emergency Combination Shower (Hughes 18G75G)	1,324.76	205.21
22 45 36		Emergency Fixture Water-Tempering Equipment (22 45)		
22 45 36 00-0001		Emergency Fixture Water-Tempering Equipment (22 45 36)		
22 45 36 00-0002		Emergency Fixture Water-Tempering Equipment (Haws) (22 45 36 00-0001)		
22 45 36 00-0003	EA	10 GPM, 1/2" Inlet, 1/2" Outlet, Brass Thermostatic Mixing/Tempering Valve (Haws 9201EV).....	709.78	64.13
22 45 36 00-0004	EA	12 GPM, 1/2" Inlet, 3/4" Outlet, Brass Thermostatic Mixing/Tempering Valve (Haws 9201EFE).....	1,042.89	64.13
22 45 36 00-0005	EA	31 GPM, 1-1/4" Inlet, 1-1/4" Outlet, Brass Thermostatic Mixing/Tempering Valve (Haws 9201E).....	1,534.08	64.13
22 45 36 00-0006	EA	78 GPM, 1-1/4" Inlet, 1-1/4" Outlet, Brass Thermostatic Mixing/Tempering Valve (Haws 9202E).....	1,810.72	64.13
22 45 36 00-0007	EA	31 GPM, 1" Inlet, 1-1/4" Outlet, Secondary High Temperature Limit Valve, Lead Free, Brass Thermostatic Mixing/Tempering Valve (Haws 9201H)	2,567.27	64.13
22 45 36 00-0008	EA	12 GPM, 1/2" Inlet, 3/4" Outlet, Secondary High Temperature Limit Valve, Brass Thermostatic Mixing/Tempering Valve (Haws TWBS.EWE).....	2,708.41	64.13
22 45 36 00-0009	EA	74 GPM, 1-1/4" Inlet, 1-1/4" Outlet, Secondary High Temperature Limit Valve, Lead Free, Brass Thermostatic Mixing/Tempering Valve (Haws TWBS.SHE).....	4,554.61	64.13
22 45 36 00-0010	EA	78 GPM, 2" Inlet, 2" Outlet, Secondary High Temperature Limit Valve, Lead Free, Brass Thermostatic Mixing/Tempering Valve (Haws TWBS.HF).....	5,474.88	64.13
22 45 36 00-0011	EA	1/2" Inlet, 1/2" Outlet, Brass Scald Protection Bleed Valve (Haws SP157B)	794.47	64.13
22 45 39		Emergency Plumbing Fixture Accessories (22 45)		
22 45 39 00-0001		Emergency Plumbing Fixture Accessories (22 45 39)		
22 45 39 00-0002		Emergency Plumbing Fixture Accessories (Haws) (22 45 39 00-0001)		
22 45 39 00-0003	EA	Pedestal Mounted, Powder Coated Aluminum Foot Control Assembly For Hands Free Activation Of Emergency Plumbing Fixtures (Haws SP220).....	182.19	20.52
22 45 39 00-0004	EA	Wall Mounted, Powder Coated Aluminum Foot Control Assembly For Hands Free Activation Of Emergency Plumbing Fixtures (Haws SP220W).....	255.58	20.52
22 45 39 00-0005	EA	Pedestal Mounted, Stainless Steel Foot Control Assembly For Hands Free Activation Of Emergency Plumbing Fixtures (Haws SP220SS)	266.87	20.52
22 45 39 00-0006	EA	Axon® MSR Stainless Steel Showerhead For Emergency Drench Showers (Haws SP829SS).....	297.68	7.70
22 45 39 00-0007	EA	Stainless Steel Dust Cover For Emergency Eye/Face Wash Bowls (Haws 9102).....	303.84	5.13
22 45 39 00-0008	EA	3-Sided ABS Plastic Safety Sign For Emergency Combination Shower And Eyewash Units (Haws 9020).....	331.04	10.26
22 45 39 00-0009	EA	Emergency Body Spray Kit With 8' Hose And ABS Plastic Head For Emergency Plumbing Fixtures (Haws 8901RFK)	577.35	76.96
22 45 39 00-0010	EA	Class 1, Div. 1, Group B, C And D, Indicator Light For Emergency Plumbing Fixtures (Haws 8317IDLTXP)	604.62	36.96
22 45 39 00-0011	EA	Vapor Tight And Gasketed, Green Area Light For Emergency Plumbing Fixtures (Haws 8317LT).....	898.20	36.96
22 45 39 00-0012	EA	Privacy Curtain For Horizontal Emergency Drench Shower Or Combination Emergency Drench Shower And Eyewash Units (Haws 9037).....	1,042.89	76.96
22 45 39 00-0013	EA	Class 1, Div. 1, Group B, C And D, White Area Light For Emergency Plumbing Fixtures (Haws 8317LTXP).....	1,999.14	36.96
22 45 39 00-0014	EA	1/2" Supply, Emergency Alarm And Light System For Emergency Plumbing Fixtures (Haws 9001.5).....	2,222.43	123.19
22 45 39 00-0015	EA	1-1/4" Supply, Emergency Alarm And Light System For Emergency Plumbing Fixtures (Haws 9001).....	2,267.59	123.19
22 45 39 00-0016	EA	1-1/4" Supply, Class 1, Division 2, Groups B, C, And D Emergency Alarm And Light System For Emergency Plumbing Fixtures (Haws 9001EXP).....	4,198.48	123.19
22 45 39 00-0017	EA	1-1/4" Supply, 90 db, Class 1, Division 1, Groups C And D, Emergency Alarm And Light System For Emergency Plumbing Fixtures (Haws 9001EXPC1D1)	7,981.19	123.19
22 45 39 00-0018		Emergency Plumbing Fixture Accessories (Speakman) (22 45 39 00-0001)		



Plumbing			22
Plumbing Fixtures			22 40
Emergency Plumbing Fixtures			22 45

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 45 39 00-0019	EA		Privacy Curtain For Emergency Showers Note: Curtain includes stainless steel curtain rod and mounting accessories.	1,090.66	76.96
22 45 39 00-0020			Emergency Plumbing Fixture Accessories (WaterSaver) (22 45 39 00-0001)		
22 45 39 00-0021	EA		Hand And Foot Control For Emergency Eyewash Equipment (WaterSaver HFC)	179.33	16.71
22 45 39 00-0022			Emergency Plumbing Fixture Accessories (U-Liner) (22 45 39 00-0001)		
22 45 39 00-0023	EA		58" Height x 29" Width x 20" Depth, Portable Eyewash Stand (U-Line H-5193)..... Note: Includes eyewash station bolts to stand	165.07	13.93
22 45 39 00-0024	EA		12" Height x 18" Width, Aluminum, Corrosion Resistant With Engineer-grade Reflective Surface, Eyewash Sign (U-Line S-17343A).....	62.45	13.93
22 45 39 00-0025	EA		7" Height x 10" Width, 0.055" Thick HDPE, Plastic, Eyewash Sign (U-Line S-17343P)	37.43	8.91
22 45 39 00-0026	EA		7" Height x 10" Width, Vinyl, Eyewash Sign (U-Line S-17343V)..... Note: Includes 4 mil flexible vinyl with adhesive backing	29.36	8.91
22 46 Security Plumbing Fixtures (22 40)					
22 46 13 Security Water Closets and Urinals (22 46)					
22 46 13 13 Security Water Closets (22 46 13)					
22 46 13 13-0001 Security Water Closets (22 46 13 13)					
22 46 13 13-0002	EA		Security Water Closet, Integral Seat, Back Supply And Flush Valve, Wall Hung, Wall Outlet, Cast Aluminum (Acorn 1675)..... For Angled Toilet, Add For Offset Toilet, Add	2,737.66 25.65 248.12	256.51
22 46 13 13-0003	EA		Security Water Closet, Integral Seat, Back Supply And Flush Valve, Floor Mount, Wall Outlet, Cast Aluminum (Acorn 1684)..... For Angled Toilet, Add For Offset Toilet, Add	3,310.70 25.65 305.42	256.51
22 46 13 13-0004	EA		Security Water Closet, Integral Seat, Back Supply And Flush Valve, Floor Mount, Floor Outlet, Cast Aluminum (Acorn 1695)..... For Angled Toilet, Add For Offset Toilet, Add	3,360.91 25.65 310.44	256.51
22 46 13 13-0005	EA		Recessed Tissue Holder For Security Water Closet, Stainless Steel (Acorn 1840).....	308.53	51.30
22 46 13 13-0006	EA		Penal-Ware® Blowout Jet Water Closet, Integral Seat, Back Supply, Floor Mount, Wall Outlet, Stainless Steel (Acorn LR1685-W-2FVBO TLT)	1,131.81	256.51
22 46 13 13-0007	EA		Ligature Resistant, Stainless Steel, Floor Mount, Wall Outlet, Siphon Jet Toilet - ADA (Whitehall BestCare® WH2142-ADA-T-EGE10).....	2,183.95	256.51
22 46 13 16 Security Urinals (22 46 13)					
22 46 13 16-0001 Security Urinals (22 46 13 16)					
22 46 13 16-0002	EA		Security Urinal, Back Supply And Flush, Wall Hung, Stainless Steel (Acorn 1700).....	3,236.90	230.86
22 46 13 16-0003	EA		Security Urinal, Back Supply And Flush, Stall, Stainless Steel (Acorn 1720)	5,491.39	328.03
22 46 13 19 Security Combination Toilet and Lavatory (22 46 13)					
22 46 13 19-0001 Security Combination Toilet - Lavatory (22 46 13 19)					
22 46 13 19-0002	EA		15" Wide Combination Security Water Closet And Lavatory Unit, Soap And Paper Holders, Seat, Wall Mounted, Stainless Steel (Acorn 1415)..... For Angled Toilet, Add For Offset Toilet, Add For 15" Mirror/Shelf Module, Add For AC Duplex Outlet Option, Add For Intercom Option, Add For 15" Wide Light/Ventilation Module, Add	4,960.79 31.81 464.27 868.08 93.62 138.62 825.85	318.08
22 46 13 19-0003	EA		18" Wide Combination Security Water Closet And Lavatory Unit, Soap And Paper Holders, Seat, Wall Mounted, Stainless Steel (Acorn 1418)..... For Angled Toilet, Add For Offset Toilet, Add For 18" Mirror/Shelf Module, Add For AC Duplex Outlet Option, Add For Intercom Option, Add For 18" Wide Light/Ventilation Module, Add	5,111.02 33.35 477.76 908.47 96.69 141.69 850.08	333.47
22 46 13 19-0004	EA		20" Wide Combination Security Water Closet And Lavatory Unit, Soap And Paper Holders, Seat, Wall Mounted, Stainless Steel (Acorn 1420)..... For Angled Toilet, Add For Offset Toilet, Add For 20" Mirror/Shelf Module, Add For AC Duplex Outlet Option, Add For Intercom Option, Add For 20" Wide Light/Ventilation Module, Add	5,224.91 34.89 487.61 958.86 99.77 144.77 884.32	348.85



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 46 13 19-0005	EA	26" Wide Combination Security Water Closet And Lavatory Unit, Soap And Paper Holders, Seat, Wall Mounted, Stainless Steel (Acorn 1426)	5,591.54	364.25
		For Angled Toilet, Add	36.42	
		For Offset Toilet, Add	522.73	
		For 26" Mirror/Shelf Module, Add	999.25	
		For AC Duplex Outlet Option, Add	102.85	
		For Intercom Option, Add	147.85	
		For 26" Wide Light/Ventilation Module, Add	913.55	
22 46 13 19-0006	EA	28" Wide Combination Security Water Closet And Lavatory Unit, Soap And Paper Holders, Seat, Floor Mounted, Stainless Steel (Acorn 1428)	9,010.37	379.64
		For Angled Toilet, Add	37.96	
		For Offset Toilet, Add	863.07	
		For 28" Mirror/Shelf Module, Add	1,034.64	
		For AC Duplex Outlet Option, Add	105.93	
		For Intercom Option, Add	150.93	
		For 28" Wide Light/Ventilation Module, Add	942.78	
22 46 16 Security Lavatories and Sinks (22 46)				
22 46 16 13 Security Lavatories (22 46 16)				
22 46 16 13-0001 Security Lavatories (22 46 16 13)				
22 46 16 13-0002	EA	20" Security Lavatory, Wall Hung, Push Button Filler Valve, Rectangular Bowl, Stainless Steel (Acorn 1650)	1,973.10	179.56
		For Shelf, Add	88.87	
22 46 16 13-0003	EA	18" Security Lavatory, Wall Hung, Push Button Filler Valve, Oval Bowl, Stainless Steel (Acorn 1655)	2,006.34	179.56
		For Shelf, Add	88.87	
22 46 16 13-0004	EA	13" Security Lavatory, Wall Hung, Push Button Filler Valve, Oval Bowl, Corner Mount, Stainless Steel (Acorn 1660)	2,287.03	179.56
		For Shelf, Add	88.87	
22 46 16 13-0005	EA	18" Security Lavatory, Wall Hung, Push Button Filler Valve, Multi Sided Bowl, Stainless Steel (Acorn 1656)	2,006.34	179.56
		For Shelf, Add	88.87	
22 46 16 13-0006	EA	Penal-Ware® 18" Security Lavatory, Wall Hung, Push Button Filler Valve, Oval Bowl, Stainless Steel (Acorn M-1652-E530-1 Multi -Lav)	3,646.82	179.56
22 46 16 13-0007	EA	Ligature Resistant Corterra®, Wall, Bathroom Sink, With Faucet, Bowl Size 14-1/2" x 12-1/2" (Whitehall BestCare® WH3775-WH3375L-SO)	2,484.54	256.51
22 46 16 13-0008	EA	Ligature Resistant Corterra®, Wall, Bathroom Sink, Without Faucet, Bowl Size 14-1/2" x 12-1/2" (Whitehall WH3775-09)	2,134.25	256.51
22 46 16 13-0009	EA	Ligature Resistant Sensor Activated Spout with Electronic Valve, Single Temperature (Whitehall BestCare® WH3375L-SO)	936.30	36.94
22 46 16 16 Security Sinks (22 46 16)				
22 46 16 16-0001 Security Sinks (22 46 16 16)				
22 46 16 16-0002	EA	22" x 16" x 10" Security Service Sink, With Soap Dish, Stainless Steel (Acorn 1642)	4,243.94	273.44
22 46 16 16-0003 Security Mop Sink (22 46 16 16)				
22 46 16 16-0004	EA	24" x 24" x 10" Stainless Steel Mop Sink With Strainer (ACORN 1630)	4,083.53	153.91
22 46 19 Security Showers (22 46)				
22 46 19 00-0001 Security Showers (22 46 19)				
22 46 19 00-0002	EA	30" Security Shower, Stainless Steel, Knock-Down (Acorn 1730-3M-KD)	11,067.88	410.42
22 46 19 00-0003	EA	32" Security Shower, Stainless Steel, Knock-Down (Acorn 1732-3M-KD)	11,469.52	410.42
22 46 19 00-0004	EA	36" Security Shower, Stainless Steel, Knock-Down (Acorn 1736-3M-KD)	11,882.89	410.42
22 46 19 00-0005	EA	36" ADA Security Shower, Stainless Steel, Front Access (Acorn 1736-ADA-3M-FA)	15,119.50	410.42
22 46 19 00-0006	EA	Security Shower Package For Built-in, Hot And Cold Faucets, Mixing Valve, Rectangular Soap Dish, Stainless Steel (Acorn 1741)	712.99	136.98
22 46 19 00-0007	EA	Security Shower Head With Mixing Valves And Piping Assembly In Wall (Acorn 1743)	518.52	71.83
22 46 19 00-0008	EA	Ligature Resistant ADA Compliant Flush-Mounted Stainless Steel Security Shower With Temperature/Pressure Mixing Valve, Dual Showerhead (Acorn MLR1748 LIG/RES SHWR)	1,079.90	71.83
22 46 43 Security Plumbing Fixture Flushometers (22 46)				
22 46 43 00-0001	EA	Concealed Manual Water Closet Flush Valve, With Pushbutton Control (Sloan 601 AFD ESM)	764.02	34.99
		Note: Anti-flood device (AFD), solenoid operated with module plug 24V (ESM).		
22 46 43 00-0002	EA	Concealed Manual Urinal Flush Valve, 1-1/2" Backinlet, With Pushbutton Control (Sloan 609 ESM)	763.13	34.99
		Note: Solenoid operated with module plug 24V (ESM).		
22 46 43 00-0003	EA	Concealed Manual Urinal Flush Valve, 3/4" Backinlet, With Pushbutton Control (Sloan 613 ESM)	737.09	34.99
		Note: Solenoid operated with module plug 24V (ESM).		
22 46 56 Security Drinking Fountains (22 46)				
22 46 56 00-0001 Security Drinking Fountain (22 46 56)				
		Note: Includes air control valve, bubbler with mouthguard and mounting bracket.		
22 46 56 00-0002	EA	Wall Mounted Security Drinking Fountain, Stainless Steel (Acorn 1670-1-BP-3-FA)	2,230.17	205.21
22 46 56 00-0003	EA	Wall Mounted Security ADA Drinking Fountain, Stainless Steel (Acorn 1672-1-ADA-BP-3-FA)	2,246.20	205.21



Plumbing			22
Plumbing Fixtures			22 40
Drinking Fountains and Water Coolers			22 47

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

22 47 Drinking Fountains and Water Coolers (22 40)

22 47 13 Drinking Fountains (22 47)

22 47 13 00-0001 Drinking Fountain Accessories (22 47 13)

22 47 13 00-0002 Drinking Fountain Grab Bars (22 47 13 00-0001)

Note: Includes satin finish and concealed mounting with snap flange.

22 47 13 00-0003	EA	18" x 33", Wall And Floor Mounted, 1-1/4" Diameter, Stainless Steel Drinking Fountain Grab Bar	327.46	21.69
		For Peened Grip, Add	25.57	
22 47 13 00-0004	EA	18" x 33", Wall And Floor Mounted, 1-1/2" Diameter, Stainless Steel Drinking Fountain Grab Bar	353.03	21.69
		For Peened Grip, Add	27.87	

22 47 13 00-0005 Indoor Drinking Fountains (22 47 13)

22 47 13 00-0006 Face Mounted Indoor Drinking Fountain (22 47 13 00-0005)

22 47 13 00-0007	EA	Stainless Steel, Standard Length, Semi-Circular Indoor Drinking Fountain With Bubbler, 180 Degree Push Bar (Halsey-Taylor OVL-II-S)	1,741.61	166.73
22 47 13 00-0008	EA	Stainless Steel, Standard Length, Semi-Circular With Back Panel Indoor Drinking Fountain With Bubbler, 180 Degree Push Bar (Halsey-Taylor OVL-II-SBP)	2,531.40	179.56
22 47 13 00-0009	EA	Stainless Steel, Extended Length, Semi-Circular Indoor Drinking Fountain With Bubbler, 180 Degree Push Bar (Halsey-Taylor OVL-II-E)	2,290.89	166.73
22 47 13 00-0010	EA	Stainless Steel, Extended Length, Semi-Circular With Back Panel Indoor Drinking Fountain With Bubbler, 180 Degree Push Bar (Halsey-Taylor OVL-II-EBP)	2,729.23	179.56
22 47 13 00-0011	EA	Stainless Steel, Standard Length, Rectangle Indoor/Outdoor Drinking Fountain With Bubbler, Rounded Corners (Halsey-Taylor HRFS)	1,171.57	166.73
22 47 13 00-0012	EA	Stainless Steel, Standard Length, Rectangle With Back Panel Indoor/Outdoor Drinking Fountain With Bubbler, Rounded Corners With Back Panel (Halsey-Taylor HRFSBP)	1,399.36	179.56
22 47 13 00-0013	EA	Stainless Steel, Extended Length, Rectangle Indoor/Outdoor Drinking Fountain With Bubbler, Rounded Corners (Halsey-Taylor HRFE)	1,323.54	166.73
22 47 13 00-0014	EA	Stainless Steel, Extended Length, Rectangle With Back Panel Indoor/Outdoor Drinking Fountain With Bubbler, Rounded Corners (Halsey-Taylor HRFEBP)	1,604.75	179.56

22 47 13 00-0015 Wall Mounted Indoor Drinking Fountain (22 47 13 00-0005)

22 47 13 00-0016	EA	Stainless Steel Wall-Mounted Rectangle Indoor Drinking Fountain With Bubbler, Backsplash, Front And Side Push Bars (Halsey-Taylor 5701)	1,206.76	179.56
22 47 13 00-0017	EA	Stainless Steel Wall-Mounted Rectangle Indoor Drinking Fountain/Bottle Filling Station With Bubbler, Backsplash, Front And Side Push Bars (Halsey-Taylor HTHB-HAC8WF)	1,843.28	179.56
22 47 13 00-0018	EA	Bi-Level, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountains (Halsey-Taylor HTHB-HAC8BLWF)	2,336.71	230.86
22 47 13 00-0019	EA	Bi-Level, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountains (Elkay VRCGRNTLWSSK)	3,453.73	230.86
22 47 13 00-0020	EA	Bi-Level, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountains (Elkay EZSTLG8WSSK)	2,966.47	230.86
22 47 13 00-0021	EA	Bi-Level, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountains (Elkay LZSTL8WSSP)	2,697.95	230.86
22 47 13 00-0022	EA	White Vitreous China Wall-Mounted Indoor Drinking Fountain (Haws 1201)	1,318.04	179.56
22 47 13 00-0023	EA	White Enameled Iron Wall-Mounted Indoor Drinking Fountain (Haws 1311 And 6700)	1,850.96	179.56
22 47 13 00-0024	EA	Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay LVRC8WSK)	3,049.50	179.56
22 47 13 00-0025	EA	Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Non-Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay VRC8WSK)	2,945.08	179.56
22 47 13 00-0026	EA	Stainless Steel Wall-Mounted Indoor Hands-Free Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay LVRC8WSK)	2,817.47	179.56
22 47 13 00-0027	EA	Stainless Steel Wall-Mounted Indoor Hands-Free Non-Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay VRC8WSK)	2,701.45	179.56
22 47 13 00-0028	EA	Stainless Steel Wall-Mounted High-Efficiency Indoor Chilled Hands-Free Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay LVRCGRN8WSK)	2,457.82	179.56
22 47 13 00-0029	EA	Stainless Steel Wall-Mounted High-Efficiency Indoor Chilled Hands-Free Non-Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay VRCGRN8WSK)	2,353.41	179.56
22 47 13 00-0030	EA	Stainless Steel Wall-Mounted High-Efficiency Indoor Chilled Hands-Free Filtered Bottle Filling Station With Drinking Fountain (Elkay LZSG8WSSK)	2,237.39	179.56
22 47 13 00-0031	EA	Stainless Steel Wall-Mounted Indoor Chilled Filtered Bottle Filling Station With Hands-Free Touchless Sensor Drinking Fountain (Elkay LZO8WSSK)	2,237.39	179.56
22 47 13 00-0032	EA	Stainless Steel Wall-Mounted Indoor Chilled Non-Filtered Bottle Filling Station With Hands-Free Fountain (Elkay EZO8WSSK)	2,132.98	179.56
22 47 13 00-0033	EA	Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Bottle Filling Station With Drinking Fountain (Elkay EZSG8WSSK)	2,132.98	179.56
22 47 13 00-0034	EA	Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Filtered Bottle Filling Station With Drinking Fountain (Elkay LMA8F8WSSK)	2,086.58	179.56
22 47 13 00-0035	EA	Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Filtered Bottle Filling Station With Vandal-Resistant Drinking Fountain (Elkay LZS8WSVRSK)	2,086.58	179.56
22 47 13 00-0036	EA	Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Non-Filtered Bottle Filling Station With Drinking Fountain (Elkay EMABF8WSSK)	1,982.16	179.56
22 47 13 00-0037	EA	Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Filtered Bottle Filling Station With Drinking Fountain (Elkay LZS8WSSK)	1,924.16	179.56
22 47 13 00-0038	EA	Stainless Steel Wall-Mounted Indoor Chilled Hands-Free Filtered Bottle Filling Station With Drinking Fountain (Elkay LZS8WSSP)	1,842.95	179.56
22 47 13 00-0039	EA	Stainless Steel Wall-Mounted Indoor Hands-Free Filtered Bottle Filling Station With Drinking Fountain (Elkay LZSDWSSK)	1,808.14	179.56
22 47 13 00-0040	EA	Stainless Steel Wall-Mounted Indoor Hands-Free Non-Filtered Bottle Filling Station With Drinking Fountain (Elkay EMABFDWSSK)	1,692.13	179.56

22 Plumbing**22 40 Plumbing Fixtures****22 47 Drinking Fountains and Water Coolers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 47 13 00-0041 EA Vinyl Clad Cabinet, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountain (Elkay EMABF8WSLK).....	1,924.16	179.56
22 47 13 00-0042 EA Vinyl Clad Cabinet, Non-Chilled, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountain (Elkay EMABFDWSLK).....	1,692.13	179.56
22 47 13 00-0043 EA Vinyl Clad Cabinet, Stainless Steel Wall-Mounted Indoor Bottle Filling Station With Drinking Fountain (Elkay LZS8WSLK).....	1,794.39	179.56
22 47 13 00-0044 EA Vinyl Clad Cabinet, Stainless Steel Wall-Mounted Indoor, Bottle Filling Station With Drinking Fountain (Elkay LZS8WSLP).....	1,796.54	179.56
22 47 13 00-0045 EA Surface Mounted, Stainless Steel, Filtered Non-Refrigerated, Bottle Filling Station Kit (Elkay LZWSSM).....	1,485.10	128.26
22 47 13 00-0046 EA Wall Mounted, Non-Filtered Non-Refrigerated, Retrofit Bottle Filling Station Kit (Elkay EMABFWS-RF).....	1,113.86	128.26
22 47 13 00-0047 Semi-Recessed Indoor Drinking Fountain (22 47 13 00-0005)		
22 47 13 00-0048 EA Stainless Steel Semi-Recessed Indoor Drinking Fountain With Bubbler (Halsey-Taylor 5801).....	1,617.02	192.38
22 47 13 00-0049 EA Stainless Steel Semi-Recessed Indoor Drinking Fountain With Bubbler And Cuspidor (Halsey-Taylor 5801C).....	3,451.10	192.38
22 47 13 00-0050 Fully Recessed Indoor Drinking Fountain (22 47 13 00-0005)		
22 47 13 00-0051 EA Stainless Steel Fully-Recessed, With Bubbler, Indoor Drinking Fountain (Halsey-Taylor 8880, Haws 2400).....	1,729.56	205.21
22 47 13 00-0052 EA Stainless Steel Fully-Recessed, With Bubbler And Cuspidor, Indoor Drinking Fountain (Halsey-Taylor 8800 With 10245, Haws 2403).....	3,136.64	205.21
22 47 13 00-0053 EA Stainless Steel Fully-Recessed Indoor Drinking Fountain With Bubbler, Barrier Free (Haws 2401).....	2,095.10	205.21
22 47 13 00-0054 EA Stainless Steel Fully-Recessed Indoor Drinking Fountain With Bubbler, Barrier Free (Haws 2406).....	4,699.47	205.21
22 47 13 00-0055 EA Stainless Steel Fully-Recessed Indoor Drinking Fountain With Bubbler (Haws 2403).....	3,207.63	205.21
22 47 13 00-0056 Countertop Indoor Drinking Fountain (22 47 13 00-0005)		
22 47 13 00-0057 EA Stainless Steel Countertop Circular Indoor Drinking Fountain Basin With Pushbutton Bubbler (Halsey-Taylor 10000).....	721.65	128.26
22 47 13 00-0058 EA Stainless Steel Countertop Rectangular Indoor Drinking Fountain Basin With Pushbutton Bubbler (Halsey-Taylor 6000).....	695.16	128.26
22 47 13 00-0059 EA Stainless Steel Countertop Oval Indoor Drinking Fountain Basin With Pushbutton Bubbler (Halsey-Taylor 6028).....	840.32	128.26
22 47 13 00-0060 Bowl And Bracket Indoor Drinking Fountain (22 47 13 00-0005)		
22 47 13 00-0061 EA Stainless Steel, Bowl And Bracket With Pushbutton Bubbler, Indoor Drinking Fountain (Halsey-Taylor 2501A).....	611.46	128.26
22 47 13 00-0062 EA Stainless Steel, Bowl And Bracket, Self Closing Lever Handle Stop, Indoor Drinking Fountain (Halsey-Taylor 4540).....	734.51	128.26
22 47 13 00-0063 Multi-Station Indoor Drinking Fountain (22 47 13 00-0005)		
22 47 13 00-0064 EA Two Station, Stainless Steel, Indoor Drinking Fountains With Bubbler And Built In Backsplash, With Bottom Cover Plate (Halsey-Taylor 7020).....	3,258.48	205.21
22 47 13 00-0065 EA Three Station, Stainless Steel, Indoor Drinking Fountains With Bubbler And Built In Backsplash, With Bottom Cover Plate (Halsey-Taylor 7030).....	4,093.36	205.21
22 47 13 00-0066 EA Two Station, Marble, Face-Mounted Indoor Drinking Fountain With Bubblers (Halsey-Taylor 7120).....	3,108.97	205.21
22 47 13 00-0067 EA Two Station, White Enameled Iron Indoor Drinking Fountains With Bubblers (Haws 1430).....	2,624.87	205.21
22 47 13 00-0068 EA Three Station, White Enameled Iron Indoor Drinking Fountains With Bubblers (Haws 1435).....	3,300.87	205.21
22 47 13 00-0069 EA Bi-Level, Stainless Steel, Indoor Drinking Fountain With Bubblers And Back Panel (Halsey-Taylor HRFSEBP, Haws 1119.14 With 6700.4).....	2,882.82	261.77
22 47 13 00-0070 EA Two Station, Cast Aluminum Indoor Drinking Fountains With Bubblers (Haws 1441).....	5,395.29	205.21
22 47 13 00-0071 EA Three Station, Cast Aluminum Indoor Drinking Fountains With Bubblers (Haws 1408).....	5,299.24	205.21
22 47 13 00-0072 EA White Enameled Iron, Dual Height, Drinking Fountain (Haws 1501 with 6715).....	3,207.78	261.77
22 47 13 00-0073 EA Two Station, White Enameled Iron Indoor Drinking Fountains With Bubblers (Haws 1431).....	2,722.78	205.21
22 47 13 00-0074 EA Two Station, White Enameled Iron Indoor Drinking Fountains With Bubblers (Haws 1501).....	2,774.27	205.21
22 47 13 00-0075 Outdoor Drinking Fountains (22 47 13)		
22 47 13 00-0076 Face Mounted Outdoor Drinking Fountains (22 47 13 00-0075)		
22 47 13 00-0077 EA Stainless Steel Freeze Resistant Face Mounted Outdoor Drinking Fountain With Bubbler (Halsey-Taylor HRFE-FR).....	1,512.18	205.21
22 47 13 00-0078 EA Stainless Steel Freeze Resistant Face Mounted, With Back Panel, Outdoor Drinking Fountain With Bubbler (Halsey-Taylor HRFEFP-FR).....	1,656.05	205.21
22 47 13 00-0079 EA Stone Aggregate Weather Resistant Face Mounted Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4592).....	1,593.58	205.21
22 47 13 00-0080 EA Stone Aggregate Freeze Resistant Face Mounted Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4592-FR).....	2,329.98	205.21
22 47 13 00-0081 Free Standing Outdoor Drinking Fountains (22 47 13 00-0075)		
22 47 13 00-0082 EA Steel Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4715).....	2,855.19	192.38
22 47 13 00-0083 EA Steel Pedestal Freeze Resistant Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4715-FR).....	4,003.33	192.38
22 47 13 00-0084 EA Steel Barrier-Free Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4710).....	2,851.38	192.38
22 47 13 00-0085 EA Steel Barrier-Free Pedestal Freeze Resistant Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4710-FR).....	3,930.00	192.38
22 47 13 00-0086 EA Steel Barrier-Free Bi-level Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4720).....	4,236.29	205.21
22 47 13 00-0087 EA Steel Barrier-Free Bi-level Pedestal Freeze Resistant Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4720-FR).....	4,312.96	205.21
22 47 13 00-0088 EA Stone Aggregate Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4591).....	1,613.34	192.38
22 47 13 00-0089 EA Stone Aggregate Barrier-Free Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4590).....	2,771.90	192.38
22 47 13 00-0090 EA Stone Aggregate Barrier-Free Pedestal Freeze Resistant Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4590-FR).....	3,920.04	192.38



Plumbing			22
Plumbing Fixtures			22 40
Drinking Fountains and Water Coolers			22 47

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 47 13 00-0091	EA		Stone Aggregate Barrier-Free Bi-level Pedestal Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4595)	4,612.06	205.21
22 47 13 00-0092	EA		Stone Aggregate Barrier-Free Bi-level Pedestal Freeze Resistant Outdoor Drinking Fountain With Bubbler (Halsey-Taylor 4595-FR)	6,465.37	205.21
22 47 13 00-0093	EA		Hi-Lo Pedestal Style Drinking Fountain (Haws Model 3500)	4,979.19	205.21
22 47 13 00-0094	EA		Pedestal Outdoor Drinking Fountain, Triple (Haws 3502).....	6,475.27	205.21
22 47 13 00-0095			Wall Mounted Outdoor Drinking Fountains (22 47 13 00-0075)		
22 47 13 00-0096	EA		Stainless Steel, Single Wall Mounted Drinking Fountain (Haws 1105).....	2,111.76	192.38
22 47 13 00-0097	EA		Stainless Steel, Single Low Profile Wall Mounted Drinking Fountain (Haws 1107L)	2,533.71	192.38
22 47 13 00-0098	EA		Stainless Steel, Single Wall Mounted Drinking Fountain (Haws 1109).....	2,348.24	192.38
22 47 13 00-0099	EA		White Polymarble Barrier-Free Single Drinking Fountain (Haws 1075)	2,529.27	192.38
22 47 13 00-0100	EA		Vitreous China Single Drinking Fountain (Haws 1201).....	2,060.86	192.38
22 47 13 00-0101			Multi-Station Outdoor Drinking Fountains (22 47 13 00-0075)		
22 47 13 00-0102	EA		Stainless Steel, Hi/Lo Wall Mounted Drinking Fountain (Haws 1119).....	2,694.80	205.21
22 47 13 00-0103	EA		Stainless Steel, 3 Position Adjustable Hi/Lo Wall Mounted Drinking Fountain (Haws 1117L)	4,597.74	205.21
22 47 13 00-0104	EA		White Polymarble Barrier-Free Two Bowl (Hi-Lo) Drinking Fountain (Haws 1085).....	5,409.66	205.21
22 47 13 00-0105	EA		White Cast Aluminum Three Station Outdoor Drinking Fountains With Bubblers (Haws 1408).....	3,172.66	205.21
22 47 16			Pressure Water Coolers (22 47)		
22 47 16 00-0001			Indoor Water Coolers (22 47 16)		
22 47 16 00-0002			Face Mounted Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0003	EA		Stainless Steel, Semi-Circular Water Cooler With Bubbler, Face-Mounted, Extended Length, 180 Degree Push Bar, 7.5 GPH (Halsey-Taylor OVL-II ER-Q)	3,273.67	205.21
22 47 16 00-0004	EA		Stainless Steel, Semi-Circular Water Cooler, Electronic Sensor, Face-Mounted, Extended Length, With Bubbler, 7.5 GPH (Halsey-Taylor OVL-II EREE-Q)	3,494.21	205.21
22 47 16 00-0005			Wall Mounted Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0006	EA		Stainless Steel Wall-Mounted Compact Water Cooler, 4 GPH With Bubbler, (Halsey-Taylor SW4A-Q).....	1,565.19	205.21
22 47 16 00-0007	EA		Stainless Steel Wall-Mounted Compact Water Cooler, 8 GPH With Bubbler (Halsey-Taylor SW8A-Q)	1,621.98	205.21
22 47 16 00-0008	EA		Stainless Steel Wall-Mounted Compact Water Cooler, 14 GPH, With Bubbler (Halsey-Taylor SW14A-Q).....	1,799.92	205.21
22 47 16 00-0009	EA		Stainless Steel Wall-Mounted Vandal Resistant Compact Water Cooler With Bubbler, 8 GPH (Halsey-Taylor SW8A-VR-Q-SS).....	1,868.07	205.21
22 47 16 00-0010	EA		Stainless Steel Wall-Mounted Vandal Resistant Barrier Free Water Cooler With Bubbler, 8 GPH (Halsey-Taylor HVR8-CHILD ADA)	1,387.24	205.21
22 47 16 00-0011	EA		Stainless Steel Wall-Mounted Barrier Free Water Cooler With Bubbler, Front And Side Pushbar, 8 GPH (Halsey- Taylor WC8AFS-Q-SS)	1,604.94	205.21
22 47 16 00-0012	EA		Stainless Steel Wall-Mounted Barrier Free Water Cooler With Bubbler, Front And Side Pushbar, 8 GPH (Halsey- Taylor HAC8FS-Q Child SS)	1,265.14	205.21
22 47 16 00-0013	EA		Stainless Steel Wall-Mounted Water Cooler, 8 GPH, With Bubbler, (Halsey-Taylor HAC8VR-BL)	1,896.78	205.21
22 47 16 00-0014	EA		Stainless Steel, Wall Mounted, Barrier Free, Bi-Level Indoor Water Cooler With Bubblers, 8 GPH (Halsey-Taylor HAC8FSBL-Q-SS).....	2,118.72	307.81
22 47 16 00-0015			Simulated Recessed Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0016	EA		Stainless Steel Simulated Recessed Water Cooler With Bubbler, 8 GPH (Halsey-Taylor RWM8A-Q)	1,864.12	205.21
22 47 16 00-0017			Fully Recessed Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0018	EA		Stainless Steel Fully-Recessed Water Cooler With Bubbler, 8 GPH (Halsey-Taylor RC8A-Q)	3,610.78	230.86
22 47 16 00-0019	EA		Stainless Steel Fully-Recessed Water Cooler With Bubbler And Cup Dispenser, 8 GPH (Halsey-Taylor RC8AQ + 14762)	4,407.43	230.86
22 47 16 00-0020	EA		Stainless Steel Fully-Recessed Water Cooler With Bubbler And Cup Dispenser And Glass Filler, 8 GPH (Halsey- Taylor RC8A-Q-14700).....	5,156.54	230.86
22 47 16 00-0021			Free Standing Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0022	EA		Stainless Steel, Free-Standing Indoor Water Cooler, 4 GPH, With Bubbler (Halsey-Taylor SCWT4A-Q).....	1,507.25	179.56
22 47 16 00-0023	EA		Stainless Steel, Free-Standing Indoor Water Cooler, 8 GPH, With Bubbler (Halsey-Taylor SCWT8A-Q).....	1,617.99	179.56
22 47 16 00-0024	EA		Stainless Steel, Free-Standing Indoor Water Cooler, 14 GPH, With Bubbler (Halsey-Taylor SCWT14A-Q).....	1,834.75	179.56
22 47 16 00-0025	EA		Stainless Steel, Free-Standing Vandal Resistant Water Cooler With Bubbler, 14 GPH (Halsey-Taylor SCWT14A- VR-Q)	2,040.15	179.56
22 47 16 00-0026			Bottled Water Coolers (22 47 16 00-0001)		
22 47 16 00-0027	EA		Free-Standing Bottled Water Cooler With Chilled Or Room Temperature Water	524.49	102.60
22 47 16 00-0028	EA		Free-Standing Bottled Water Cooler With Chilled Or Hot Water.....	626.20	102.60
22 47 16 00-0029			Multi-Station Indoor Water Coolers (22 47 16 00-0001)		
22 47 16 00-0030	EA		Stainless Steel, Wall Mounted, Two Station, Semi-Circular Indoor Water Cooler With Bubblers, 180 Degree Push Bars, 7.5 GPH (Halsey-Taylor OVL-II SER-Q)	4,325.33	307.81
22 47 16 00-0031	EA		Stainless Steel, Wall Mounted, Two Station, Electronic Sensor Semi Circular Indoor Water Cooler With Bubblers, 180 Degree Push Bars, 7.5 GPH (Halsey-Taylor OVL-II-SEREE-Q).....	4,963.02	307.81

22 Plumbing**22 40 Plumbing Fixtures****22 47 Drinking Fountains and Water Coolers**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 47 16 00-0032	EA	Stainless Steel, Wall Mounted, Barrier Free, Bi-Level, Vandal Resistant Indoor Water Cooler With Bubblers, 8 GPH (Halsey-Taylor HVR8BL-CHILD ADA-SS)	2,295.72	307.81
22 47 16 00-0033		Outdoor Water Coolers (22 47 16)		
22 47 16 00-0034		Wall Mounted Outdoor Water Coolers (22 47 16 00-0033)		
22 47 16 00-0035	EA	Stainless Steel, Wall Mounted, Barrier Free, Vandal Resistant, Frost Resistant Outdoor Water Cooler With Bubbler, 8 GPH (Halsey-Taylor HVR8FR-CHILD ADA-SS).....	1,618.03	128.26
22 47 16 00-0036	EA	Stainless Steel, Wall Mounted, Barrier Free, Bi-Level, Vandal Resistant Outdoor Water Cooler With Bubblers, 8 GPH (Halsey-Taylor HVR8BLFR-CHILD ADA-SS)	2,778.06	128.26
22 47 16 00-0037		Free Standing Outdoor Water Coolers (22 47 16 00-0033)		
22 47 16 00-0038	EA	Stainless Steel Free-Standing Outdoor Water Cooler With Bubbler, 14 GPH (Halsey-Taylor HOF14A-Q).....	2,668.72	192.38
22 47 16 00-0039	EA	Stainless Steel Free-Standing Frost Resistant Outdoor Water Cooler With Bubbler, 14 GPH (Halsey-Taylor HOF14A-FR-Q)	3,198.78	192.38
22 47 16 00-0040		Removal And Reinstallation Of Fixtures And Trim (22 47 16)		
		Note: Includes storage, cleaning and supply materials for reconnecting pipe to fixture.		
22 47 16 00-0041	EA	Removal And Reinstallation Of Wall Hung Water Cooler.....	498.94	
22 47 16 00-0042	EA	Removal And Reinstallation Of Floor Mount Water Cooler	111.42	
22 47 19		Water-Station Water Coolers (22 47)		
22 47 19 00-0001		Bottle Filler (22 47 19)		
22 47 19 00-0002	EA	Outdoor Tubular Bottle Filling Station, Surface Mount (Elkay LK4410BF)	3,959.30	205.21
		For Stainless Steel Carrier, Add	205.00	
22 47 19 00-0003	EA	Outdoor Tubular Bottle Filling Station, Surface Mount, Freeze Resistant (Elkay LK4410BFERK).....	4,881.48	205.21
		For Stainless Steel Carrier, Add	205.00	
22 47 19 00-0004	EA	Tri-level Outdoor Tubular Bottle Filling Station With Single Bottle Filler And Two Drinking Fountain Basins, Surface Mount (Elkay LK4430BF1)	6,265.66	230.86
		For Stainless Steel Carrier, Add	205.00	
22 47 19 00-0005	EA	Tri-level Outdoor Tubular Bottle Filling Station With Two Bottle Fillers And Single Drinking Fountain Basin, Surface Mount (Elkay LK4430BF2)	6,769.91	230.86
		For Stainless Steel Carrier, Add	205.00	
22 47 19 00-0006	EA	Tri-level Outdoor Tubular Bottle Filling Station With Three Bottle Fillers, Surface Mount (Elkay LK4430BF3)	7,274.15	230.86
		For Stainless Steel Carrier, Add	205.00	
22 47 23		Remote Water Coolers (22 47)		
22 47 23 00-0001		Remote Chillers (22 47 23)		
22 47 23 00-0002	EA	1.5 GPH Remote Chiller (Halsey-Taylor SJ1-Q).....	931.70	69.26
22 47 23 00-0003	EA	5 GPH Remote Chiller (Halsey-Taylor SJ5-Q).....	1,414.68	76.96
22 47 23 00-0004	EA	8 GPH Remote Chiller (Halsey-Taylor SJ8-Q).....	1,216.96	89.78
22 47 23 00-0005	EA	10 GPH Remote Chiller (Halsey-Taylor SJ10-Q).....	1,565.37	102.60
22 47 23 00-0006	EA	19 GPH Remote Chiller (Halsey-Taylor SJ19-Q).....	2,451.72	153.91
22 47 23 00-0007	EA	30 GPH Remote Chiller (Halsey-Taylor SJ30-Q).....	2,658.13	166.73
22 47 26		Fixture Carriers (22 47)		
22 47 26 00-0001		Water Cooler Carriers (22 47 26)		
22 47 26 00-0002		Floor Mounted, Water Cooler Carriers (22 47 26 00-0001)		
		Note: Includes adjustable supporting rods, structural uprights and welded feet.		
22 47 26 00-0003	EA	Floor Mounted Hanger Plate Type, Single Water Cooler Carrier	577.93	38.99
		For Up To 4" Extension Sleeves And Hardware, Add	24.54	
		For Bi-Level Carrier, Add	278.83	
22 47 26 00-0004	EA	Floor Mounted Bearing Plate Type, Single Water Cooler Carrier	545.64	38.99
		For Up To 4" Extension Sleeves And Hardware, Add	24.54	
		For Bi-Level Carrier, Add	278.83	
22 50		Pool and Fountain Plumbing Systems (22)		
22 51		Swimming Pool Plumbing Systems (22 50)		
22 51 13		Swimming Pool Piping (22 51)		
22 51 13 00-0001		Swimming Pool Gutters (22 51 13)		
22 51 13 00-0002	LF	Swimming Pool Gutters, Stainless	251.48	23.09
22 51 13 00-0003		Pool Drains (22 51 13)		
22 51 13 00-0004		Cast Iron Pool Drain With Bottom Outlet (22 51 13 00-0003)		
		Note: Large square top and 24" loose set round super-flo grate.		



		Plumbing	22
		Pool and Fountain Plumbing Systems	22 50
		Swimming Pool Plumbing Systems	22 51

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 13 00-0005	EA	Cast Iron Pool Drain, 4" - 8" Bottom Outlet, Large Square Top And 24" Super-Flo Grate..... <i>For Polished Bronze Top, Add</i> <i>For Chromium Plated Top, Add</i> <i>For Galvanized Top, Add</i> <i>For Vandal Proof Construction, Add</i>	2,827.30 769.60 805.00 276.40 57.20	64.64
22 51 13 00-0006		Cast Iron Pool Drain With Waterproof Flange (22 51 13 00-0003) Note: Bottom outlet 14" square top and loose set square flange.		
22 51 13 00-0007	EA	Cast Iron Pool Drain, 2" - 4" Bottom Outlet With Waterproof Flange And 14" Square Top..... <i>For Clamp Device, Add</i> <i>For Galvanized Top, Add</i> <i>For Polished Bronze Top, Add</i> <i>For Chromium Plated Top, Add</i> <i>For Hinge Grate, Add</i> <i>For Supplementary Strainer, Add</i> <i>For Threaded Outlet, Add</i> <i>For Vandal Proof Construction, Add</i> <i>For Ground Screw, Add</i>	790.23 13.80 38.10 733.50 146.90 28.60 7.00 9.50 17.10 16.30	64.64
22 51 13 00-0008		Pool Supply Fittings (22 51 13)		
22 51 13 00-0009		Cast Iron Pool Supply Fittings (22 51 13 00-0008) Note: Includes polished bronze head and anchor flange and adjustable V-ported valve insert and threaded inlet.		
22 51 13 00-0010	EA	Cast Iron Pool Fitting For 2" Pipe <i>For Galvanized Head, Add</i> <i>For Vandal Proof Construction, Add</i> <i>For Grounding Screw, Add</i>	1,023.84 26.30 11.50 18.30	115.43
22 51 13 00-0011	EA	Cast Iron Pool Fitting For 3" Pipe <i>For Chromium Plated Head, Add</i> <i>For Galvanized Head, Add</i> <i>For Vandal Proof Construction, Add</i> <i>For Grounding Screw, Add</i>	1,023.84 11.50 26.30 11.50 18.30	115.43
22 51 16		Swimming Pool Pumps (22 51)		
22 51 16 00-0001		Variable Speed Pool Pumps (22 51 16)		
22 51 16 00-0002	EA	3 HP, Variable Speed Pool Pump With Vacuum Release (Pentair INTELLIFLO VS+SVRS 11017).....	2,695.03	436.07
22 51 16 00-0003	EA	Variable Speed Pool Pump (Hayward EcoStar SVRS SP3400VSP).....	2,953.72	436.07
22 51 16 00-0004	EA	Variable Speed Pool Pump With Vacuum Release (Hayward EcoStar SVRS SP3400VSPVR).....	3,300.94	436.07
22 51 16 00-0005		Electric Powered Portable Vacuum Cleaner Pump (22 51 16) Note: Includes 75' of 3 wire electric safety cord.		
22 51 16 00-0006	EA	1 HP Electric Portable Vacuum Cleaner Pump With 75' Of 3-Wire Safety Cord.....	361.69	51.30
22 51 16 00-0007	EA	1-1/2 HP Electric Portable Vacuum Cleaner Pump With 75' Of 3-Wire Safety Cord.....	634.53	51.30
22 51 16 00-0008		Gasoline Driven Portable Vacuum Cleaner Pump (22 51 16)		
22 51 16 00-0009	EA	3 HP Gasoline Driven Portable Vacuum Cleaner Pump.....	2,448.39	51.30
22 51 19		Swimming Pool Water Treatment Equipment (22 51)		
22 51 19 00-0001		Condensing Pool Water Heater (22 51 19)		
22 51 19 00-0002	EA	372 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN400).....	40,212.12	735.36
22 51 19 00-0003	EA	467 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN501).....	43,787.89	882.43
22 51 19 00-0004	EA	567 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN601).....	48,021.10	955.98
22 51 19 00-0005	EA	660 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN701).....	59,029.03	1,029.51
22 51 19 00-0006	EA	773 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN801).....	61,219.84	1,103.04
22 51 19 00-0007	EA	967 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN1015).....	92,886.81	1,323.65
22 51 19 00-0008	EA	1,257 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN1320).....	119,105.03	1,397.19
22 51 19 00-0009	EA	1,450 MBH, 97% Efficient, Gas Fired, Indirect, Condensing Pool Water Heater (Lochinvar XPN1520).....	123,894.56	1,507.50
22 51 19 00-0010		Non-Condensing Pool Water Heater (22 51 19)		
22 51 19 00-0011	EA	500 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN0502).....	21,511.16	955.98
22 51 19 00-0012	EA	650 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN0652).....	22,923.01	1,029.51
22 51 19 00-0013	EA	750 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN0752).....	24,977.66	1,103.04
22 51 19 00-0014	EA	990 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN0992).....	33,041.54	1,323.65
22 51 19 00-0015	EA	1,260 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN1262).....	38,322.87	1,397.19
22 51 19 00-0016	EA	1,440 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN1442).....	40,906.92	1,507.50
22 51 19 00-0017	EA	1,800 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN1802).....	40,509.12	1,581.03

22 Plumbing**22 50 Pool and Fountain Plumbing Systems****22 51 Swimming Pool Plumbing Systems**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 19 00-0018	EA	2,070 MBH, 89% Efficient, Gas Fired, Copper Finned Tube, Non-Condensing Pool Water Heater (Lochinvar CPN2072).....	52,613.67	1,617.80
22 51 19 00-0019		Swimming Pool Heaters (22 51 19) Note: Excludes wiring, external piping, base or pad. Commercial pools.		
22 51 19 00-0020		Electric Pool Heaters (22 51 19 00-0019)		
22 51 19 00-0021	EA	12 KW Heater (1 Degree/Hour), For 4,800 Gallon Pool.....	4,166.15	205.21
22 51 19 00-0022	EA	18 KW Heater (1 Degree/Hour), For 7,200 Gallon Pool.....	4,657.06	220.60
22 51 19 00-0023	EA	24 KW Heater (1 Degree/Hour), For 9,600 Gallon Pool.....	5,172.76	256.51
22 51 19 00-0024	EA	30 KW Heater (1 Degree/Hour), For 12,000 Gallon Pool.....	5,472.10	307.81
22 51 19 00-0025	EA	36 KW Heater (1 Degree/Hour), For 14,400 Gallon Pool.....	6,010.86	430.94
22 51 19 00-0026	EA	60 KW Heater (1 Degree/Hour), For 24,000 Gallon Pool.....	6,877.45	615.63
22 51 19 00-0027		Gas Fired Pool Heaters (22 51 19 00-0019)		
22 51 19 00-0028	EA	120 MBH Output Gas Fired Pool Heater.....	5,895.41	1,007.15
22 51 19 00-0029	EA	180 MBH Output Gas Fired Pool Heater.....	6,895.49	1,151.03
22 51 19 00-0030	EA	240 MBH Output Gas Fired Pool Heater.....	7,566.34	1,294.91
22 51 19 00-0031	EA	300 MBH Output Gas Fired Pool Heater.....	8,694.98	1,582.67
22 51 19 00-0032	EA	360 MBH Output Gas Fired Pool Heater.....	8,950.57	1,670.48
22 51 19 00-0033	EA	400 MBH Output Gas Fired Pool Heater.....	10,518.56	2,057.53
22 51 19 00-0034	EA	500 MBH Output Gas Fired Pool Heater.....	16,647.01	2,374.07
22 51 19 00-0035	EA	600 MBH Output Gas Fired Pool Heater.....	19,319.78	2,611.48
22 51 19 00-0036	EA	750 MBH Output Gas Fired Pool Heater.....	21,797.46	2,848.89
22 51 19 00-0037	EA	1,000 MBH Output Gas Fired Pool Heater.....	27,982.30	3,363.27
22 51 19 00-0038		Surge Tanks (22 51 19) Note: Includes 100 GPM vertical pump with 2 HP motor and electronic float switch. Prices are for 1' To 5' sump depth for pump.		
22 51 19 00-0039	EA	1,000 Gallon Surge Tank, With 2 HP Motor With 100 GPM Vertical Pump And Electric Float Switch.....	22,840.75	822.75
22 51 19 00-0040	EA	1,500 Gallon Surge Tank, With 2 HP Motor With 100 GPM Vertical Pump And Electric Float Switch.....	25,700.67	822.75
22 51 19 00-0041	EA	2,000 Gallon Surge Tank, With 2 HP Motor With 100 GPM Vertical Pump And Electric Float Switch.....	30,956.27	1,057.21
22 51 19 00-0042	EA	5,000 Gallon Surge Tank, With 2 HP Motor With 100 GPM Vertical Pump And Electric Float Switch.....	40,660.09	1,706.24
22 51 19 00-0043		Diatomite Type Filter System (22 51 19)		
22 51 19 00-0044	EA	35,000 Gallon Filter System, Diatomite.....	14,323.36	2,942.29
22 51 19 00-0045	EA	45,000 Gallon Filter System, Diatomite.....	17,078.28	3,530.75
22 51 19 00-0046		Silver Recovery System, X-Ray Film Processing (22 51 19)		
22 51 19 00-0047	EA	20 Gallon/Day Capacity, Silver Recovery System.....	1,928.20	348.19
22 51 19 00-0048	EA	40 Gallon/Day Capacity, Silver Recovery System.....	2,832.23	464.28
22 51 19 00-0049		Inline Water Filter (22 51 19) Note: 3/8" NPT threaded inlet and outlet, 125 PSI, includes one filter cartridge.		
22 51 19 00-0050	EA	2 GPM Water Filter, 100 Degree Temperature, 8" x 5" Diameter, Plastic Body.....	253.34	102.60
22 51 19 00-0051	EA	6 GPM Water Filter, 250 Degree Temperature, 12" x 5" Diameter, Stainless Steel Body.....	462.60	153.91
22 51 19 00-0052		Horizontal High Rate Sand Filters (22 51 19) Note: Includes sand, filter system equipment and attached accessory gauges.		
22 51 19 00-0053	EA	135-270 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	40,667.58	2,210.89
22 51 19 00-0054	EA	Note: 1 tank, 4" pipe size, Miami Tanks model # HH3614-A. 135-270 GPM Horizontal Hi-Rate Sand Filter, Manual Controls.....	24,758.68	2,210.89
22 51 19 00-0055	EA	Note: 1 tank, 4" pipe size, Miami tanks model # HH3614-M. 270-405 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	56,182.61	4,421.76
22 51 19 00-0056	EA	Note: 2 tank, 4" pipe size, Miami tanks model # HH3624-A. 270-405 GPM Horizontal Hi-Rate Sand Filter, Manual Controls.....	44,385.76	4,421.76
22 51 19 00-0057	EA	Note: 2 tank, 4" pipe size, Miami tanks model # HH3624-M. 270-540 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	57,762.54	4,421.76
22 51 19 00-0058	EA	Note: 2 tank, 6" pipe size, Miami tanks model # HH3626-A. 270-540 GPM Horizontal Hi-Rate Sand Filter, Manual Controls.....	46,201.63	4,421.76
22 51 19 00-0059	EA	Note: 2 tank, 6" pipe size, Miami tanks model # HH3626-M. 405-810 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	78,893.50	6,632.65
22 51 19 00-0060	EA	Note: 3 tank, 6" pipe size, Miami tanks model # HH3636-A. 405-810 GPM Horizontal Hi-Rate Sand Filter, Manual Controls.....	61,345.69	6,632.65
22 51 19 00-0061	EA	Note: 3 tank, 6" pipe size, Miami tanks model # HH3636-M. 405-810 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	81,168.61	6,632.65
22 51 19 00-0062	EA	Note: 3 tank, 8" pipe size, Miami tanks model # HH3638-A. 405-810 GPM Horizontal Hi-Rate Sand Filter, Manual Controls.....	67,927.25	6,632.65
22 51 19 00-0063	EA	Note: 3 tank, 8" pipe size, Miami tanks model # HH3638-M. 540-810 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	101,819.15	8,843.54
22 51 19 00-0064	EA	Note: 4 tank, 6" pipe size, Miami tanks model # HH3646-A. 540-810 GPM Horizontal Hi-Rate Sand Filter, Manual Controls.....	86,950.91	8,843.54
22 51 19 00-0065	EA	Note: 4 tank, 6" pipe size, Miami tanks model # HH3646-M. 675 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls.....	123,780.81	11,054.42
		Note: 5 tank, 6" pipe size, Miami tanks model # HH3656-A.		



		Plumbing	22
		Pool and Fountain Plumbing Systems	22 50
		Swimming Pool Plumbing Systems	22 51

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 19 00-0066 EA 675 GPM Horizontal Hi-Rate Sand Filter, Manual Controls..... Note: 5 tank, 6" pipe size, Miami tanks model # HH3656-M.	104,631.99	11,054.42
22 51 19 00-0067 EA 675-1350 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls..... Note: 5 tank, 8" pipe size, Miami tanks model # HH3658-A.	127,273.52	11,054.42
22 51 19 00-0068 EA 675-1350 GPM Horizontal Hi-Rate Sand Filter, Manual Controls..... Note: 5 tank, 8" pipe size, Miami tanks model # HH3658-M.	108,450.32	11,054.42
22 51 19 00-0069 EA 810 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls..... Note: 6 tank, 6" pipe size, Miami tanks model # HH3666-A.	146,968.77	13,265.30
22 51 19 00-0070 EA 810 GPM Horizontal Hi-Rate Sand Filter, Manual Controls..... Note: 6 tank, 6" pipe size, Miami tanks model # HH3666-M.	125,667.03	13,265.30
22 51 19 00-0071 EA 810-1620 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls..... Note: 6 tank, 8" pipe size, Miami tanks model # HH3668-A.	150,019.10	13,265.30
22 51 19 00-0072 EA 810-1620 GPM Horizontal Hi-Rate Sand Filter, Manual Controls..... Note: 6 tank, 8" pipe size, Miami tanks model # HH3668-M.	128,150.75	13,265.30
22 51 19 00-0073 EA 810-1620 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls..... Note: 6 tank, 10" pipe size, Miami tanks model # HH36610-A.	154,101.65	13,265.30
22 51 19 00-0074 EA 810-1620 GPM Horizontal Hi-Rate Sand Filter, Manual Controls..... Note: 6 tank, 10" pipe size, Miami tanks model # HH36610-M.	122,894.78	13,265.30
22 51 19 00-0075 EA 945-1418 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls..... Note: 7 tank, 8" pipe size, Miami tanks model # HH3678-A.	173,225.22	15,476.18
22 51 19 00-0076 EA 945-1418 GPM Horizontal Hi-Rate Sand Filter, Manual Controls..... Note: 7 tank, 8" pipe size, Miami tanks model # HH3678-M.	151,921.98	15,476.18
22 51 19 00-0077 EA 945-1890 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls..... Note: 7 tank, 10" pipe size, Miami tanks model # HH36710-A.	178,359.56	15,476.18
22 51 19 00-0078 EA 945-1890 GPM Horizontal Hi-Rate Sand Filter, Manual Controls..... Note: 7 tank, 10" pipe size, Miami tanks model # HH36710-M.	156,480.62	15,476.18
22 51 19 00-0079 EA 1080-2160 GPM Horizontal Hi-Rate Sand Filter, Automatic Controls..... Note: 8 tank, 10" pipe size, Miami tanks model # HH36810-A.	198,460.32	17,687.07
22 51 19 00-0080 EA 1080-2160 GPM Horizontal Hi-Rate Sand Filter, Manual Controls..... Note: 8 tank, 10" pipe size, Miami tanks model # HH36810-M.	176,817.32	17,687.07
22 51 19 00-0081 Swimming Pool Chlorinators (22 51 19)		
22 51 19 00-0082 EA Swimming Pool Chlorinator, 50-100 PPD, Direct Cylinder Mounted Gas Chlorinator.....	1,107.07	146.73
22 51 19 00-0083 Ultra-Violet Pool Treatment Lights (22 51 19)		
22 51 19 00-0084 Stainless Steel Ultra-Violet Pool Treatment Lights (22 51 19 00-0083) Note: Delta ELP Amalgam Series		
22 51 19 00-0085 EA 3" Flanged, 79 GPM, 2 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	15,661.24	319.91
22 51 19 00-0086 EA 3" Flanged, 116 GPM, 3 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	16,561.70	319.91
22 51 19 00-0087 EA 3" Flanged, 158 GPM, 4 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	17,333.53	319.91
22 51 19 00-0088 EA 4" Flanged, 254 GPM, 5 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	17,879.91	338.79
22 51 19 00-0089 EA 4" Flanged, 295 GPM, 6 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	18,262.40	338.79
22 51 19 00-0090 EA 4" Flanged, 329 GPM, 7 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	21,735.55	338.79
22 51 19 00-0091 EA 6" Flanged, 396 GPM, 6 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	25,616.86	608.37
22 51 19 00-0092 EA 6" Flanged, 440 GPM, 2 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	38,044.34	608.37
22 51 19 00-0093 EA 6" Flanged, 650 GPM, 3 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	41,777.93	608.37
22 51 19 00-0094 EA 8" Flanged, 695 GPM, 3 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	44,786.32	729.86
22 51 19 00-0095 EA 8" Flanged, 920 GPM, 4 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	48,112.01	729.86
22 51 19 00-0096 EA 8" Flanged, 1140 GPM, 5 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	50,433.75	729.86
22 51 19 00-0097 EA 8" Flanged, 1260 GPM, 5 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	52,943.72	729.86
22 51 19 00-0098 EA 10" Flanged, 1510 GPM, 6 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	56,858.77	829.61
22 51 19 00-0099 EA 10" Flanged, 1760 GPM, 7 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	61,251.23	829.61
22 51 19 00-0100 EA 10" Flanged, 2010 GPM, 8 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	65,643.66	829.61
22 51 19 00-0101 EA 10" Flanged, 2520 GPM, 10 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	70,977.35	829.61
22 51 19 00-0102 HDPE Ultra-Violet Pool Treatment Lights (22 51 19 00-0083) Note: Delta EL Series		
22 51 19 00-0103 EA 3" Flanged, 116 GPM, 3 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With HDPE Housing.....	7,770.56	319.91
22 51 19 00-0104 EA 3" Flanged, 158 GPM, 4 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With HDPE Housing.....	8,649.02	319.91
22 51 19 00-0105 EA 4" Flanged, 254 GPM, 5 Lamp, 240 Volt, Ultra-Violet Pool Treatment Light With HDPE Housing.....	9,555.97	338.79
22 51 19 00-0106 In-Line, Stainless Steel Ultra-Violet Pool Treatment Lights (22 51 19 00-0083) Note: Delta EM Series		
22 51 19 00-0107 EA 3" Flanged, 100 GPM, 1 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	30,360.25	319.91
22 51 19 00-0108 EA 3" Flanged, 170 GPM, 1 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	30,673.97	319.91
22 51 19 00-0109 EA 6" Flanged, 300 GPM, 1 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	32,691.86	608.37
22 51 19 00-0110 EA 6" Flanged, 600 GPM, 1 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	41,439.07	608.37
22 51 19 00-0111 EA 8" Flanged, 1300 GPM, 1 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	57,838.15	729.86
22 51 19 00-0112 EA 10" Flanged, 2000 GPM, 2 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	65,267.18	829.61
22 51 19 00-0113 EA 12" Flanged, 3000 GPM, 3 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	76,932.38	1,073.55
22 51 19 00-0114 EA 12" Flanged, 4000 GPM, 4 Lamp, 240 Volt, In-Line Ultra-Violet Pool Treatment Light With Stainless Steel Housing.....	86,344.74	1,073.55
22 51 23 Swimming Pool Equipment Controls (22 51)		
22 51 23 00-0001 Pool Pump Variable Frequency Drive (22 51 23) Note: Pentair Acu Drive XS		

22 Plumbing**22 50 Pool and Fountain Plumbing Systems****22 51 Swimming Pool Plumbing Systems**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 23 00-0002	EA	3 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-2303-N01).....	4,591.71	236.52
22 51 23 00-0003	EA	5 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-2303-N01).....	4,930.33	266.09
22 51 23 00-0004	EA	7-1/2 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-2303-N01).....	5,905.41	332.61
22 51 23 00-0005	EA	10 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-2303-N01).....	6,280.71	396.92
22 51 23 00-0006	EA	15 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-2303-N01).....	6,722.82	461.96
22 51 23 00-0007	EA	20 HP, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-2303-N01).....	7,619.51	527.75
22 51 23 00-0008	EA	3 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-4603-N01).....	4,597.50	236.52
22 51 23 00-0009	EA	5 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-4603-N01).....	4,847.39	266.09
22 51 23 00-0010	EA	7-1/2 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-4603-N01).....	5,226.40	332.61
22 51 23 00-0011	EA	10 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-4603-N01).....	5,620.99	396.92
22 51 23 00-0012	EA	15 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-4603-N01).....	6,628.30	461.96
22 51 23 00-0013	EA	20 HP, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-4603-N01).....	7,362.95	527.75
22 51 23 00-0014	EA	3 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-2303-N01FB).....	5,930.44	236.52
22 51 23 00-0015	EA	5 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-2303-N01FB).....	6,818.82	266.09
22 51 23 00-0016	EA	7-1/2 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-2303-N01FB).....	7,579.78	332.61
22 51 23 00-0017	EA	10 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-2303-N01FB).....	8,173.06	396.92
22 51 23 00-0018	EA	15 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-2303-N01FB).....	9,622.11	461.96
22 51 23 00-0019	EA	20 HP, Fused Bypass, 230 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-2303-N01FB).....	10,848.65	527.75
22 51 23 00-0020	EA	3 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-4603-N01FB).....	6,368.32	236.52
22 51 23 00-0021	EA	5 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-4603-N01FB).....	6,622.45	266.09
22 51 23 00-0022	EA	7-1/2 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-4603-N01FB).....	6,995.29	332.61
22 51 23 00-0023	EA	10 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-4603-N01FB).....	7,391.81	396.92
22 51 23 00-0024	EA	15 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-4603-N01FB).....	8,435.78	461.96
22 51 23 00-0025	EA	20 HP, Fused Bypass, 460 Volt AC, NEMA 1, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-4603-N01FB).....	9,230.22	527.75
22 51 23 00-0026	EA	1/2 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD005-2303-N12).....	4,369.57	236.52
22 51 23 00-0027	EA	3/4 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD007-2303-N12).....	4,442.29	236.52
22 51 23 00-0028	EA	1 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD010-2303-N12).....	4,487.22	236.52
22 51 23 00-0029	EA	1-1/2 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD015-2303-N12).....	4,608.26	236.52
22 51 23 00-0030	EA	2 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD020-2303-N12).....	4,791.11	236.52
22 51 23 00-0031	EA	3 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-2303-N12).....	4,932.95	236.52
22 51 23 00-0032	EA	5 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-2303-N12).....	5,281.22	266.09
22 51 23 00-0033	EA	7-1/2 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-2303-N12).....	6,296.76	332.61
22 51 23 00-0034	EA	10 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-2303-N12).....	6,735.89	396.92
22 51 23 00-0035	EA	15 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-2303-N12).....	7,191.59	461.96
22 51 23 00-0036	EA	20 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-2303-N12).....	8,171.03	527.75
22 51 23 00-0037	EA	25 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD250-2303-N12).....	10,732.09	657.83
22 51 23 00-0038	EA	30 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD300-2303-N12).....	11,847.10	724.35
22 51 23 00-0039	EA	40 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD400-2303-N12).....	14,012.63	790.88
22 51 23 00-0040	EA	50 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD500-2303-N12).....	16,303.96	923.93
22 51 23 00-0041	EA	60 HP, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD600-2303-N12).....	17,859.99	990.45
22 51 23 00-0042	EA	1/2 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD005-4603-N12).....	4,460.19	236.52
22 51 23 00-0043	EA	3/4 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD007-4603-N12).....	4,554.12	236.52



		Plumbing	22
		Pool and Fountain Plumbing Systems	22 50
		Swimming Pool Plumbing Systems	22 51

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 23 00-0044	EA	1 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD010-4603-N12).....	4,672.29	236.52
22 51 23 00-0045	EA	1-1/2 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD015-4603-N12).....	4,773.87	236.52
22 51 23 00-0046	EA	2 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD020-4603-N12).....	4,877.38	236.52
22 51 23 00-0047	EA	3 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-4603-N12).....	4,986.62	236.52
22 51 23 00-0048	EA	5 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-4603-N12).....	5,244.80	266.09
22 51 23 00-0049	EA	7-1/2 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-4603-N12).....	5,627.84	332.61
22 51 23 00-0050	EA	10 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-4603-N12).....	6,032.10	396.92
22 51 23 00-0051	EA	15 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-4603-N12).....	7,330.75	461.96
22 51 23 00-0052	EA	20 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-4603-N12).....	8,082.47	527.75
22 51 23 00-0053	EA	25 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD250-4603-N12).....	8,908.55	657.83
22 51 23 00-0054	EA	30 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD300-4603-N12).....	10,076.30	724.35
22 51 23 00-0055	EA	40 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD400-4603-N12).....	11,375.99	790.88
22 51 23 00-0056	EA	50 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD500-4603-N12).....	13,941.11	923.93
22 51 23 00-0057	EA	60 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD600-4603-N12).....	15,316.28	990.45
22 51 23 00-0058	EA	75 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD750-4603-N12).....	17,175.07	1,056.97
22 51 23 00-0059	EA	100 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC10-4603-N12).....	20,349.26	1,119.80
22 51 23 00-0060	EA	125 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC13-4603-N12).....	23,467.95	1,182.62
22 51 23 00-0061	EA	150 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC15-4603-N12).....	25,454.13	1,323.05
22 51 23 00-0062	EA	200 HP, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC20-4603-N12).....	29,715.67	1,448.71
22 51 23 00-0063	EA	1/2 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD005-2303-N12FB).....	6,308.33	236.52
22 51 23 00-0064	EA	3/4 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD007-2303-N12FB).....	6,381.05	236.52
22 51 23 00-0065	EA	1 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD010-2303-N12FB).....	6,425.98	236.52
22 51 23 00-0066	EA	1-1/2 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD015-2303-N12FB).....	6,547.03	236.52
22 51 23 00-0067	EA	2 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD020-2303-N12FB).....	6,729.88	236.52
22 51 23 00-0068	EA	3 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-2303-N12FB).....	6,871.71	236.52
22 51 23 00-0069	EA	5 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-2303-N12FB).....	7,219.98	266.09
22 51 23 00-0070	EA	7-1/2 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-2303-N12FB).....	8,016.04	332.61
22 51 23 00-0071	EA	10 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-2303-N12FB).....	8,679.34	396.92
22 51 23 00-0072	EA	15 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-2303-N12FB).....	10,167.25	461.96
22 51 23 00-0073	EA	20 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-2303-N12FB).....	11,490.20	527.75
22 51 23 00-0074	EA	25 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD250-2303-N12FB).....	13,525.55	657.83
22 51 23 00-0075	EA	30 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD300-2303-N12FB).....	14,890.72	724.35
22 51 23 00-0076	EA	40 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD400-2303-N12FB).....	19,023.67	790.88
22 51 23 00-0077	EA	50 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD500-2303-N12FB).....	25,084.81	923.93
22 51 23 00-0078	EA	60 HP, Fused Bypass, 230 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD600-2303-N12FB).....	27,569.02	990.45
22 51 23 00-0079	EA	1/2 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD005-4603-N12FB).....	6,280.82	236.52
22 51 23 00-0080	EA	3/4 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD007-4603-N12FB).....	6,374.73	236.52
22 51 23 00-0081	EA	1 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD010-4603-N12FB).....	6,492.92	236.52
22 51 23 00-0082	EA	1-1/2 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD015-4603-N12FB).....	6,594.50	236.52
22 51 23 00-0083	EA	2 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD020-4603-N12FB).....	6,697.99	236.52
22 51 23 00-0084	EA	3 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD030-4603-N12FB).....	6,807.25	236.52
22 51 23 00-0085	EA	5 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD050-4603-N12FB).....	7,065.43	266.09

22 Plumbing**22 50 Pool and Fountain Plumbing Systems****22 51 Swimming Pool Plumbing Systems**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 23 00-0086	EA	7-1/2 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD075-4603-N12FB)	7,446.50	332.61
22 51 23 00-0087	EA	10 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD100-4603-N12FB)	7,850.76	396.92
22 51 23 00-0088	EA	15 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD150-4603-N12FB)	9,188.90	461.96
22 51 23 00-0089	EA	20 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD200-4603-N12FB)	10,001.72	527.75
22 51 23 00-0090	EA	25 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD250-4603-N12FB)	10,957.90	657.83
22 51 23 00-0091	EA	30 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD300-4603-N12FB)	12,350.05	724.35
22 51 23 00-0092	EA	40 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD400-4603-N12FB)	14,625.39	790.88
22 51 23 00-0093	EA	50 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD500-4603-N12FB)	16,828.96	923.93
22 51 23 00-0094	EA	60 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD600-4603-N12FB)	18,736.34	990.45
22 51 23 00-0095	EA	75 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS AD750-4603-N12FB)	21,758.03	1,056.97
22 51 23 00-0096	EA	100 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC10-4603-N12FB)	28,696.49	1,119.80
22 51 23 00-0097	EA	125 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC13-4603-N12FB)	31,746.33	1,182.62
22 51 23 00-0098	EA	150 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC15-4603-N12FB)	39,885.79	1,323.05
22 51 23 00-0099	EA	200 HP, Fused Bypass, 460 Volt AC, NEMA 12, 3 Phase, Pool Pump Variable Frequency Drive (Pentair Acu Drive XS ADC20-4603-N12FB)	46,867.43	1,448.71
22 51 23 00-0100	EA	380+ Volt AC, Up To 10 HP, 260 Volt AC, Up To 3 HP, 3 Year Extended Warranty (Pentair AD-EWW136)	430.71	
22 51 23 00-0101	EA	380+ Volt AC, 15 To 40 HP, 260 Volt AC, 5 To 25 HP, 3 Year Extended Warranty (Pentair AD-EWW236)	687.30	
22 51 23 00-0102	EA	380+ Volt AC, Up To 10 HP, 260 Volt AC, Up To 3 HP, 6 Year Extended Warranty (Pentair AD-EWW172)	760.60	
22 51 23 00-0103	EA	380+ Volt AC, 15 To 40 HP, 260 Volt AC, 5 To 25 HP, 6 Year Extended Warranty (Pentair AD-EWW272)	1,292.12	
22 51 23 00-0104	EA	380+ Volt AC, 50 To 125 HP, 260 Volt AC, 30 To 60 HP, 6 Year Extended Warranty (Pentair AD-EWW372)	2,465.11	
22 51 23 00-0105	EA	3" Clamp On Saddle Flow Sensor Kit, Integral 4 To 20 mA Output Signal (Pentair 97014-4203KIT)	1,535.77	
22 51 23 00-0106	EA	4" Clamp On Saddle Flow Sensor Kit, Integral 4 To 20 mA Output Signal (Pentair 97014-4204KIT)	1,605.51	
22 51 23 00-0107	EA	6" Clamp On Saddle Flow Sensor Kit, Integral 4 To 20 mA Output Signal (Pentair 97016-4206KIT)	1,751.68	
22 51 23 00-0108	EA	8" Clamp On Saddle Flow Sensor Kit, Integral 4 To 20 mA Output Signal (Pentair 97016-4208KIT)	1,878.32	
22 51 23 00-0109	EA	3" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97014BL-03KIT)	2,200.54	
22 51 23 00-0110	EA	4" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97014BL-04KIT)	2,266.01	
22 51 23 00-0111	EA	6" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97016BL-06KIT)	2,405.41	
22 51 23 00-0112	EA	8" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97016BL-08KIT)	2,528.07	
22 51 23 00-0113	EA	10" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97020BL-10KIT)	3,022.60	
22 51 23 00-0114	EA	12" Clamp On Saddle Flow Sensor Kit, Wall Mounted Display/Transmitter, 4 To 20 mA Output Signal (Pentair 97020BL-12KIT)	3,033.75	
22 51 23 00-0115		Eco-Flow-E Aquatic Variable Frequency Drive And Options (22 51 23)		
22 51 23 00-0116		Eco-Flow-E Aquatic Variable Frequency Drive (22 51 23 00-0115)		
22 51 23 00-0117	EA	2 HP, 480 Volt, 3 Phase, 4 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-04-12-4)	3,960.96	197.11
		For Bypass Panel, Add	899.95	
22 51 23 00-0118	EA	3 HP, 480 Volt, 3 Phase, 6 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-06-12-4)	3,964.76	197.11
		For Bypass Panel, Add	899.95	
22 51 23 00-0119	EA	5 HP, 480 Volt, 3 Phase, 8 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-08-12-4)	4,034.29	221.74
		For Bypass Panel, Add	899.95	
22 51 23 00-0120	EA	7-1/2 HP, 480 Volt, 3 Phase, 12 Amperes, Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-12-12-4)	4,186.97	277.18
		For Bypass Panel, Add	899.95	
22 51 23 00-0121	EA	10 HP, 480 Volt, 3 Phase, 16 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-16-12-4)	4,528.46	330.76
		For Bypass Panel, Add	899.95	
22 51 23 00-0122	EA	15 HP, 480 Volt, 3 Phase, 24 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-24-12-4)	5,039.64	384.97
		For Bypass Panel, Add	1,062.47	
22 51 23 00-0123	EA	20 HP, 480 Volt, 3 Phase, 30 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-30-12-4)	5,939.65	439.78
		For Bypass Panel, Add	1,062.47	
22 51 23 00-0124	EA	25 HP, 480 Volt, 3 Phase, 39 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-39-12-4)	6,182.92	550.65
		For Bypass Panel, Add	1,062.47	
22 51 23 00-0125	EA	30 HP, 480 Volt, 3 Phase, 45 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-45-12-4)	7,395.76	605.48
		For Bypass Panel, Add	1,062.47	
22 51 23 00-0126	EA	40 HP, 480 Volt, 3 Phase, 61 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-61-12-4)	7,627.03	659.68
		For Bypass Panel, Add	1,293.38	



		Plumbing	22
		Pool and Fountain Plumbing Systems	22 50
		Swimming Pool Plumbing Systems	22 51

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 23 00-0127	EA	1/2 HP, 208/230 Volt, 1 Phase (1 HP, 208/230 Volt, 3 Phase) 8 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-08-12-2).....	3,939.42	197.11
		For Bypass Panel, Add	899.95	
22 51 23 00-0128	EA	1 HP, 208/230 Volt, 1 Phase (2 HP, 208/230 Volt, 3 Phase) 12 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-12-12-2).....	3,944.49	197.11
		For Bypass Panel, Add	899.95	
22 51 23 00-0129	EA	1-1/2 HP, 208/230 Volt, 1 Phase (3 HP, 208/230 Volt, 3 Phase) 16 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-16-12-2).....	3,968.56	197.11
		For Bypass Panel, Add	899.95	
22 51 23 00-0130	EA	5 HP, 208/230 Volt, 1 Phase, 24 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-24-12-2).....	4,054.56	221.74
		For Bypass Panel, Add	1,062.47	
22 51 23 00-0131	EA	3 HP, 208/230 Volt, 1 Phase (7-1/2 HP, 208/230 Volt, 3 Phase) 32 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-32-12-2).....	4,404.82	277.18
		For Bypass Panel, Add	1,062.47	
22 51 23 00-0132	EA	5 HP, 208/230 Volt, 1 Phase (10 HP, 208/230 Volt, 3 Phase) 46 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-46-12-2).....	4,910.97	330.76
		For Bypass Panel, Add	1,062.47	
22 51 23 00-0133	EA	7-1/2 HP, 208/230 Volt, 1 Phase (15 HP, 208/230 Volt, 3 Phase) 60 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-60-12-2).....	5,818.60	384.97
		For Bypass Panel, Add	1,293.38	
22 51 23 00-0134	EA	10 HP, 208/230 Volt, 1 Phase (20 HP, 208/230 Volt, 3 Phase) 74 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-74-12-2).....	5,952.31	439.78
		For Bypass Panel, Add	1,293.38	
22 51 23 00-0135	EA	25 HP, 208/230 Volt, 1 Phase, 88 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-88-12-2).....	7,268.40	550.65
		For Bypass Panel, Add	1,757.36	
22 51 23 00-0136	EA	15 HP, 208/230 Volt, 1 Phase (30 HP, 208/230 Volt, 3 Phase) 124 Amperes Maximum, NEMA 12, Eco-Flow-E Aquatic Variable Frequency Drive (H2Flow EF-E-124-12-2).....	7,502.15	605.48
		For Bypass Panel, Add	2,421.46	
22 51 23 00-0137 Eco-Flow-E Aquatic Variable Frequency Drive Options (22 51 23 00-0115)				
22 51 23 00-0138	EA	0 To 30 PSI, 1/4" NPT Male Thread, 4 To 20 mA Output, 10' Cable, Pressure Sensor (H2Flow PS-30).....	544.70	92.39
22 51 23 00-0139	EA	0 To 100 PSI, 1/4" NPT Male Thread, 4 To 20 mA Output, 10' Cable, Pressure Sensor (H2Flow PS-100).....	544.70	92.39
22 51 23 00-0140	EA	Lightning Arrestor (H2Flow LA).....	576.63	61.59
22 51 23 00-0141	EA	2 HP, 480 Volt, (3/4 HP, 208/230 Volt) Load Reactor (TCI V1K4A00).....	648.21	27.71
22 51 23 00-0142	EA	3 HP, 480 Volt, (1 To 1-1/2 HP, 208/230 Volt) Load Reactor (TCI V1K6A00).....	669.56	30.80
22 51 23 00-0143	EA	5 HP, 480 Volt, (2 HP, 208/230 Volt) Load Reactor (TCI V1K8A00).....	685.86	33.88
22 51 23 00-0144	EA	7-1/2 HP, 480 Volt, (3 HP, 208/230 Volt) Load Reactor (TCI V1K12A00).....	716.08	36.96
22 51 23 00-0145	EA	10 HP, 480 Volt, (5 HP, 208/230 Volt) Load Reactor (TCI V1K16A00).....	729.84	40.04
22 51 23 00-0146	EA	15 HP, 480 Volt, (7-1/2 HP, 208/230 Volt) Load Reactor (TCI V1K25A00).....	952.59	43.11
22 51 23 00-0147	EA	20 HP, 480 Volt, Load Reactor (TCI V1K27A00).....	992.94	46.19
22 51 23 00-0148	EA	25 HP, 480 Volt, (10 HP, 208/230 Volt) Load Reactor (TCI V1K35A00).....	1,037.10	49.28
22 51 23 00-0149	EA	30 HP, 480 Volt, (15 HP, 208/230 Volt) Load Reactor (TCI V1K45A00).....	1,080.00	52.36
22 51 23 00-0150	EA	40 HP, 480 Volt, (20 HP, 208/230 Volt) Load Reactor (TCI V1K55A00).....	1,117.82	55.44
22 51 23 00-0151	EA	25 To 30 HP, 208/230 Volt, Load Reactor (TCI V1K80A00).....	1,536.89	58.51
22 51 23 00-0152	EA	1 HP, 208/230 Volt, Line Reactor (TCI KDRA25L).....	197.12	30.80
22 51 23 00-0153	EA	2 HP, 208/230 Volt, Line Reactor (TCI KDRA27L).....	210.89	33.88
22 51 23 00-0154	EA	3 HP, 208/230 Volt, Line Reactor (TCI KDRA28L).....	236.03	36.96
22 51 23 00-0155	EA	5 HP, 208/230 Volt, Line Reactor (TCI KDRB22L).....	310.59	40.04
22 51 23 00-0156	EA	7-1/2 HP, 208/230 Volt, Line Reactor (TCI KDRB23L).....	348.43	43.11
22 51 23 00-0157	EA	10 HP, 208/230 Volt, Line Reactor (TCI KDRD25L).....	360.91	46.19
22 51 23 00-0158	EA	15 HP, 208/230 Volt, Line Reactor (TCI KDRD24L).....	373.40	49.28
22 51 23 00-0159	EA	20 HP, 208/230 Volt, Line Reactor (TCI KDRD26L).....	396.04	52.36
22 51 23 00-0160	EA	25 HP, 208/230 Volt, Line Reactor (TCI KDRD22L).....	500.98	55.44
22 51 23 00-0161	EA	30 HP, 208/230 Volt, Line Reactor (TCI KDRF24L).....	514.74	58.51
22 51 23 00-0162	EA	1 HP, 480 Volt, Line Reactor (TCI KDRA8L).....	198.38	30.80
22 51 23 00-0163	EA	2 HP, 480 Volt, Line Reactor (TCI KDRA1L).....	218.49	33.88
22 51 23 00-0164	EA	3 HP, 480 Volt, Line Reactor (TCI KDRA2L).....	239.83	36.96
22 51 23 00-0165	EA	5 HP, 480 Volt, Line Reactor (TCI KDRA3L).....	252.33	40.04
22 51 23 00-0166	EA	7-1/2 HP, 480 Volt, Line Reactor (TCI KDRA4L).....	263.56	43.11
22 51 23 00-0167	EA	10 HP, 480 Volt, Line Reactor (TCI KDRA5L).....	330.51	46.19
22 51 23 00-0168	EA	15 HP, 480 Volt, Line Reactor (TCI KDRB2L).....	344.27	49.28
22 51 23 00-0169	EA	20 HP, 480 Volt, Line Reactor (TCI KDRB1L).....	361.84	52.36
22 51 23 00-0170	EA	25 HP, 480 Volt, Line Reactor (TCI KDRD1L).....	374.32	55.44
22 51 23 00-0171	EA	30 HP, 480 Volt, Line Reactor (TCI KDRD2L).....	451.41	58.51
22 51 23 00-0172	EA	40 HP, 480 Volt, Line Reactor (TCI KDRD1L).....	491.77	61.59
22 51 23 00-0173	EA	Models 04 To 30, 304 SS Metric To English Conduit Adaptor Kit.....	80.51	
22 51 23 00-0174	EA	Models 32 To 46, 304 SS Metric To English Conduit Adaptor Kit.....	109.60	
22 51 23 00-0175	EA	Models 60 To 74, 304 SS Metric To English Conduit Adaptor Kit.....	136.16	
22 51 23 00-0176 Pool Flow Meters (22 51 23)				
22 51 23 00-0177	EA	20 To 110 GPM, 1-1/2" Retrofit Kit FlowVis For Existing Jandy Or Praher Valve Flow Meter (H2Flow FVJ-R-15).....	140.34	20.52
22 51 23 00-0178	EA	20 To 110 GPM, 2" x 2-1/2" Retrofit Kit FlowVis For Existing Jandy® Or Praher Valve Flow Meter (H2Flow FVJ-R).....	140.34	20.52
22 51 23 00-0179	EA	20 To 110 GPM, 1-1/2" Complete FlowVis Including Valve Body Flow Meter (H2Flow FV-C-15).....	217.81	38.47
22 51 23 00-0180	EA	20 To 110 GPM, 2" x 2-1/2" Complete FlowVis Including Valve Body Flow Meter (H2Flow FV-C).....	181.38	41.04
22 51 23 00-0181 Paddlewheel Flow Sensors (22 51 23)				

22 Plumbing**22 50 Pool and Fountain Plumbing Systems****22 51 Swimming Pool Plumbing Systems**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 51 23 00-0182	EA	1/2" To 4" Pipe, Polypropylene Body, Black Polyvinylidene Fluoride (PVDF) Rotor, Paddlewheel Flow Sensor (Signet 3-2536-P0)	966.05	71.14	
Note: Includes 25' of cable (extendable to 200').					
22 51 23 00-0183	EA	1/2" To 4" Pipe, Polypropylene Body, Pulse/Flow Switch DCR Output Paddlewheel Flow Sensor (Signet 3-2537-1C-PO)	1,281.43	71.14	
22 51 23 00-0184	EA	1/2" To 4" Pipe, Polypropylene Body, Pulse/Flow Switch SSR Output Paddlewheel Flow Sensor (Signet 3-2537-2C-PO)	1,281.43	71.14	
22 51 23 00-0185	EA	1/2" To 4" Pipe, Polypropylene Body, Digital Output Paddlewheel Flow Sensor (Signet 3-2537-5C-PO)	1,330.83	71.14	
22 51 23 00-0186	EA	1/2" To 4" Pipe, Polypropylene Body, 4 To 20 mA Output Paddlewheel Flow Sensor (Signet 3-2537-6C-PO)	1,384.03	71.14	
22 51 23 00-0187	EA	1/2" To 4" Pipe, Polyvinylidene Fluoride (PVDF) Body, Pulse/Flow Switch DCR Output Paddlewheel Flow Sensor (Signet 3-2537-1C-TO)	1,484.72	71.14	
22 51 23 00-0188	EA	1/2" To 4" Pipe, Polyvinylidene Fluoride (PVDF) Body, Pulse/Flow Switch SSR Output Paddlewheel Flow Sensor (Signet 3-2537-2C-TO)	1,484.72	71.14	
22 51 23 00-0189	EA	1/2" To 4" Pipe, Polyvinylidene Fluoride (PVDF) Body, Digital Output Paddlewheel Flow Sensor (Signet 3-2537-5C-TO)	1,547.42	71.14	
22 51 23 00-0190	EA	1/2" To 4" Pipe, Polyvinylidene Fluoride (PVDF) Body, 4 To 20 mA Output Paddlewheel Flow Sensor (Signet 3-2537-6C-TO)	1,608.22	71.14	
22 51 23 00-0191	EA	>4" To 8" Pipe, Polypropylene Body, Black Polyvinylidene Fluoride (PVDF) Rotor, Paddlewheel Flow Sensor (Signet 3-2536-P1)	1,009.75	71.14	
Note: Includes 25' of cable (extendable to 200').					
22 51 23 00-0192	EA	>4" To 8" Pipe, Polypropylene Body, Pulse/Flow Switch DCR Output Paddlewheel Flow Sensor (Signet 3-2537-1C-P1)	1,330.83	71.14	
22 51 23 00-0193	EA	>4" To 8" Pipe, Polypropylene Body, Pulse/Flow Switch SSR Output Paddlewheel Flow Sensor (Signet 3-2537-2C-P1)	1,330.83	71.14	
22 51 23 00-0194	EA	>4" To 8" Pipe, Polypropylene Body, Digital Output Paddlewheel Flow Sensor (Signet 3-2537-5C-P1)	1,384.03	71.14	
22 51 23 00-0195	EA	>4" To 8" Pipe, Polypropylene Body, 4 To 20 mA Output Paddlewheel Flow Sensor (Signet 3-2537-6C-P1)	1,433.43	71.14	
22 51 23 00-0196	EA	>8" Pipe, Polypropylene Body, Black Polyvinylidene Fluoride (PVDF) Rotor, Paddlewheel Flow Sensor (Signet 3-2536-P2)	1,049.65	71.14	
Note: Includes 25' of cable (extendable to 200').					
22 51 23 00-0197	EA	2" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S020)	322.34		
22 51 23 00-0198	EA	4" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S040)	445.58		
22 51 23 00-0199	EA	6" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S060)	547.91		
22 51 23 00-0200	EA	8" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S080)	673.05		
22 51 23 00-0201	EA	10" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S100)	891.28		
22 51 23 00-0202	EA	12" Pipe, Polyvinyl Chloride (PVC) Saddle Clamp For Flow Transducers (Signet PV8S120)	902.42		
22 51 23 00-0203	EA	24 Volt DC, Power Supply 7.5 Watt, 300 mA (Signet 7300-7524)	318.94	19.71	
22 51 23 00-0204	EA	24 Volt DC, Power Supply 15 Watt, 600 mA (Signet 7300-1524)	438.63	19.71	
22 51 23 00-0205	EA	24 Volt DC, 30 Watt, 1.3 Amperes, Power Supply (Signet 7300-3024)	541.23	19.71	
22 51 23 00-0206	EA	24 Volt DC, 50 Watt, 2.1 Amperes, Power Supply (Signet 7300-5024)	685.62	19.71	
22 51 23 00-0207	EA	24 Volt DC, 100 Watt, 4.2 Amperes, Power Supply (Signet 7300-1024)	951.61	19.71	

22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities ⁽²²⁾

22 63 Gas Systems for Laboratory and Healthcare Facilities ^(22 60)

22 63 13 Gas Piping for Laboratory and Healthcare Facilities ^(22 63)

22 63 13 53 Laboratory Gas Piping ^(22 63 13)

See CSI section 23 21 13 23-0001 for black steel pipe, 23 21 13 23-2279 for PVC piping.

22 63 13 70 Healthcare Gas Piping ^(22 63 13)

22 63 13 70-0001 Zone Valve Assemblies ^(22 63 13 70)

22 63 13 70-0002 Single Zone Valve Assemblies ^(22 63 13 70-0001)

22 63 13 70-0003	EA	1/2" Single Zone Valve Assembly With Gauge (Amico VBU-M-05)	466.80	81.47	
22 63 13 70-0004	EA	3/4" Single Zone Valve Assembly With Gauge (Amico VBU-M-07)	498.57	88.34	
22 63 13 70-0005	EA	1" Single Zone Valve Assembly With Gauge (Amico VBU-M-10)	530.42	93.98	
22 63 13 70-0006	EA	1-1/4" Single Zone Valve Assembly With Gauge (Amico VBU-M-12)	596.69	102.60	
22 63 13 70-0007	EA	1-1/2" Single Zone Valve Assembly With Gauge (Amico VBU-M-15)	683.73	108.87	
22 63 13 70-0008	EA	2" Single Zone Valve Assembly With Gauge (Amico VBU-M-20)	848.98	117.48	

22 63 13 70-0009 Double Zone Valve Assemblies ^(22 63 13 70-0001)

22 63 13 70-0010	EA	1/2" x 1/2" Double Zone Valve Assembly With Gauges (Amico VBU-M-0505)	667.48	116.77	
22 63 13 70-0011	EA	1/2" x 3/4" Double Zone Valve Assembly With Gauges (Amico VBU-M-0507)	699.24	123.64	
22 63 13 70-0012	EA	1/2" x 1" Double Zone Valve Assembly With Gauges (Amico VBU-M-0510)	737.86	129.18	
22 63 13 70-0013	EA	1/2" x 1-1/4" Double Zone Valve Assembly With Gauges (Amico VBU-M-0512)	815.39	137.90	
22 63 13 70-0014	EA	1/2" x 1-1/2" Double Zone Valve Assembly With Gauges (Amico VBU-M-0515)	913.68	144.16	
22 63 13 70-0015	EA	3/4" x 3/4" Double Zone Valve Assembly With Gauges (Amico VBU-M-0707)	728.75	130.51	
22 63 13 70-0016	EA	3/4" x 1" Double Zone Valve Assembly With Gauges (Amico VBU-M-0710)	767.36	136.16	
22 63 13 70-0017	EA	3/4" x 1-1/4" Double Zone Valve Assembly With Gauges (Amico VBU-M-0712)	847.14	144.77	
22 63 13 70-0018	EA	3/4" x 1-1/2" Double Zone Valve Assembly With Gauges (Amico VBU-M-0715)	902.66	151.04	
22 63 13 70-0019	EA	1" x 1" Double Zone Valve Assembly With Gauges (Amico VBU-M-1010)	796.97	141.70	
22 63 13 70-0020	EA	1" x 1-1/4" Double Zone Valve Assembly With Gauges (Amico VBU-M-1012)	845.22	150.41	
22 63 13 70-0021	EA	1" x 1-1/2" Double Zone Valve Assembly With Gauges (Amico VBU-M-1015)	936.76	156.68	
22 63 13 70-0022	EA	1-1/4" x 1-1/4" Double Zone Valve Assembly With Gauges (Amico VBU-M-1212)	974.54	159.04	
22 63 13 70-0023	EA	1-1/4" x 1-1/2" Double Zone Valve Assembly With Gauges (Amico VBU-M-1215)	1,012.04	165.40	
22 63 13 70-0024	EA	1-1/2" x 1-1/2" Double Zone Valve Assembly With Gauges (Amico VBU-M-1515)	1,110.34	171.66	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 63 13 70-0025		Triple Zone Valve Assemblies (22 63 13 70-0001)		
22 63 13 70-0026	EA	1/2" x 1/2" x 1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050505)	908.69	151.96
22 63 13 70-0027	EA	1/2" x 1/2" x 3/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050507)	940.45	158.94
22 63 13 70-0028	EA	1/2" x 1/2" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050510)	979.07	164.47
22 63 13 70-0029	EA	1/2" x 1/2" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050512)	1,058.85	173.20
22 63 13 70-0030	EA	1/2" x 1/2" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050515)	1,159.40	179.46
22 63 13 70-0031	EA	1/2" x 3/4" x 3/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050707)	974.46	165.81
22 63 13 70-0032	EA	1/2" x 3/4" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050710)	1,013.08	171.35
22 63 13 70-0033	EA	1/2" x 3/4" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050712)	1,090.61	180.07
22 63 13 70-0034	EA	1/2" x 3/4" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-050715)	1,191.15	186.33
22 63 13 70-0035	EA	1/2" x 1" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-051010)	1,051.70	177.00
22 63 13 70-0036	EA	1/2" x 1" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-051012)	1,129.21	185.71
22 63 13 70-0037	EA	1/2" x 1" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-051015)	1,229.77	191.97
22 63 13 70-0038	EA	3/4" x 3/4" x 3/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-070707)	1,006.23	172.68
22 63 13 70-0039	EA	3/4" x 3/4" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-070710)	1,044.84	178.33
22 63 13 70-0040	EA	3/4" x 3/4" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-070712)	1,122.37	186.94
22 63 13 70-0041	EA	3/4" x 3/4" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-070715)	1,222.92	193.21
22 63 13 70-0042	EA	3/4" x 1" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-071010)	1,083.45	183.87
22 63 13 70-0043	EA	3/4" x 1" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-071012)	1,160.98	192.58
22 63 13 70-0044	EA	3/4" x 1" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-071015)	1,259.28	198.85
22 63 13 70-0045	EA	1" x 1" x 1" Triple Zone Valve Assembly With Gauges (Amico VBU-M-101010)	1,063.52	189.51
22 63 13 70-0046	EA	1" x 1" x 1-1/4" Triple Zone Valve Assembly With Gauges (Amico VBU-M-101012)	1,138.78	198.13
22 63 13 70-0047	EA	1" x 1" x 1-1/2" Triple Zone Valve Assembly With Gauges (Amico VBU-M-101015)	1,300.14	204.50
22 63 13 70-0048		Medical Gas Copper Pipe And Fittings (22 63 13 70-0048)		
22 63 13 70-0049		Medical Gas Copper Pipe, ASTM B819 (22 63 13 70-0048)		
22 63 13 70-0050	LF	1/4" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 1/4")	8.16	3.57
22 63 13 70-0051	LF	3/8" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 3/8")	10.11	3.57
22 63 13 70-0052	LF	1/2" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 1/2")	10.85	3.57
22 63 13 70-0053	LF	5/8" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 5/8")	12.22	3.57
22 63 13 70-0054	LF	3/4" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 3/4")	16.60	3.57
22 63 13 70-0055	LF	1" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 1")	19.48	3.57
22 63 13 70-0056	LF	1-1/4" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 1-1/4")	23.40	3.57
22 63 13 70-0057	LF	1-1/2" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 1-1/2")	29.14	3.57
22 63 13 70-0058	LF	2" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 2")	41.20	3.57
22 63 13 70-0059	LF	2-1/2" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 2-1/2")	57.97	5.90
22 63 13 70-0060	LF	3" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 3")	70.95	5.90
22 63 13 70-0061	LF	3-1/2" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 3-1/2")	90.98	8.91
22 63 13 70-0062	LF	4" Type K, ASTM B819, Washed And Capped Copper Pipe, Medical/Hospital (OXY/MED) Gas Systems (Cambridge-Lee Industries 4")	125.38	8.91
22 63 13 70-0063		Medical Gas Copper Fittings (22 63 13 70-0063)		
22 63 13 70-0064		Medical Gas Copper 90 Degree Elbows (22 63 13 70-0063)		
22 63 13 70-0065	EA	1/4" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P049)	43.57	27.07
22 63 13 70-0066	EA	3/8" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P050)	45.12	28.30
22 63 13 70-0067	EA	1/2" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P079)	47.72	29.75
22 63 13 70-0068	EA	5/8" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P080)	52.73	31.31
22 63 13 70-0069	EA	3/4" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P081)	52.09	31.31
22 63 13 70-0070	EA	1" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P082)	63.24	37.21
22 63 13 70-0071	EA	1-1/4" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P055)	67.42	39.66
22 63 13 70-0072	EA	1-1/2" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P056)	81.51	45.68
22 63 13 70-0073	EA	2" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P057)	100.27	54.03
22 63 13 70-0074	EA	2-1/2" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P058)	180.53	91.47
22 63 13 70-0075	EA	3" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMA3)	220.62	108.08
22 63 13 70-0076	EA	4" 90 Degree Copper Elbow, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMA4)	333.07	132.14
22 63 13 70-0077		Medical Gas Copper Tees (22 63 13 70-0063)		
22 63 13 70-0078	EA	1/4" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P095)	65.93	39.66
22 63 13 70-0079	EA	3/8" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P096)	68.63	42.45
22 63 13 70-0080	EA	1/2" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P098)	70.06	45.68
22 63 13 70-0081	EA	5/8" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R568)	87.19	49.58
22 63 13 70-0082	EA	3/4" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P103)	77.91	49.58
22 63 13 70-0083	EA	1" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P109)	100.44	59.49

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 63 Gas Systems for Laboratory and Healthcare Facilities**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 63 13 70-0084 EA 1-1/4" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P113)	115.78	66.07
22 63 13 70-0085 EA 1-1/2" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P117)	134.27	74.32
22 63 13 70-0086 EA 2" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R499)	166.81	84.90
22 63 13 70-0087 EA 2-1/2" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMD9)	289.28	148.64
22 63 13 70-0088 EA 3" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMG5)	364.75	169.92
22 63 13 70-0089 EA 4" Copper Tee, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMG2)	580.79	237.77
22 63 13 70-0090 Medical Gas Copper Couplings (22 63 13 70-0063)		
22 63 13 70-0091 EA 1/4" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R491)	36.48	23.73
22 63 13 70-0092 EA 3/8" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R495)	38.25	24.74
22 63 13 70-0093 EA 1/2" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R489)	39.51	25.85
22 63 13 70-0094 EA 5/8" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R493)	43.25	27.07
22 63 13 70-0095 EA 3/4" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R490)	43.93	28.30
22 63 13 70-0096 EA 1" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R492)	52.78	32.98
22 63 13 70-0097 EA 1-1/4" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R501)	58.72	34.99
22 63 13 70-0098 EA 1-1/2" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R509)	67.25	39.66
22 63 13 70-0099 EA 2" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R516)	80.89	45.68
22 63 13 70-0100 EA 2-1/2" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R615)	147.70	79.22
22 63 13 70-0101 EA 3" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R690)	180.54	91.47
22 63 13 70-0102 EA 4" Copper Coupling, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R692)	239.40	111.42
22 63 13 70-0103 Medical Gas Copper Caps (22 63 13 70-0063)		
22 63 13 70-0104 EA 1/4" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R498)	23.38	14.82
22 63 13 70-0105 EA 3/8" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R521)	23.99	14.82
22 63 13 70-0106 EA 1/2" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P121)	22.91	14.82
22 63 13 70-0107 EA 5/8" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 39R511)	25.57	15.60
22 63 13 70-0108 EA 3/4" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P122)	24.53	15.60
22 63 13 70-0109 EA 1" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P123)	30.93	18.60
22 63 13 70-0110 EA 1-1/4" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P124)	35.11	20.51
22 63 13 70-0111 EA 1-1/2" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P125)	40.55	22.84
22 63 13 70-0112 EA 2" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 5P126)	52.05	27.07
22 63 13 70-0113 EA 2-1/2" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMG6)	80.02	29.75
22 63 13 70-0114 EA 3" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMG7)	96.97	32.98
22 63 13 70-0115 EA 4" Copper Cap, Medical/Hospital (OXY/MED) Gas Systems (Nibco 1VMG8)	139.81	37.21
22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities (22 60)		
22 66 53 Laboratory Chemical-Waste and Vent Piping (22 66)		
22 66 53 00-0001 Polypropylene Acid Resistant Drain-Waste-Vent (DWV) Pipe And Fittings (22 66 53)		
22 66 53 00-0002 Schedule 40 Polypropylene Acid Resistant DWV Pipe And Fuseal Fittings (22 66 53 00-0001)		
22 66 53 00-0003 Schedule 40 Polypropylene Acid Resistant DWV Pipe (22 66 53 00-0002)		
22 66 53 00-0004 LF 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Pipe.....	14.15	5.84
For Schedule 80, Add	2.78	
For Fire Retardant Thermoplastic Pipe (Proxylene), Add	2.38	
For Work In Restricted Working Space, Add	2.64	
22 66 53 00-0005 LF 2" Schedule 40 Polypropylene Acid Resistant DWV Pipe.....	17.14	6.57
For Schedule 80, Add	3.75	
For Fire Retardant Thermoplastic Pipe (Proxylene), Add	3.21	
For Work In Restricted Working Space, Add	2.98	
22 66 53 00-0006 LF 3" Schedule 40 Polypropylene Acid Resistant DWV Pipe.....	27.38	9.54
For Schedule 80, Add	6.78	
For Fire Retardant Thermoplastic Pipe (Proxylene), Add	5.80	
For Work In Restricted Working Space, Add	4.31	
22 66 53 00-0007 LF 4" Schedule 40 Polypropylene Acid Resistant DWV Pipe.....	37.15	12.41
For Schedule 80, Add	9.62	
For Fire Retardant Thermoplastic Pipe (Proxylene), Add	8.23	
For Work In Restricted Working Space, Add	5.60	
22 66 53 00-0008 LF 6" Schedule 40 Polypropylene Acid Resistant DWV Pipe.....	60.71	18.26
For Schedule 80, Add	17.34	
For Fire Retardant Thermoplastic Pipe (Proxylene), Add	14.84	
For Work In Restricted Working Space, Add	8.21	
22 66 53 00-0009 Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bends (22 66 53 00-0002)		
22 66 53 00-0010 EA 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bend.....	54.63	22.06
For Work In Restricted Working Space, Add	9.93	
22 66 53 00-0011 EA 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bend.....	70.40	29.14
For Work In Restricted Working Space, Add	13.10	
22 66 53 00-0012 EA 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bend.....	95.44	33.34
For Work In Restricted Working Space, Add	15.02	
22 66 53 00-0013 EA 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bend.....	138.44	44.12
For Work In Restricted Working Space, Add	19.86	
22 66 53 00-0014 EA 6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/4 Bend.....	275.29	65.16
For Work In Restricted Working Space, Add	29.32	



		Plumbing	22
		Gas and Vacuum Systems for Laboratory and Healthcare Facilities	22 60
		Chemical-Waste Systems for Laboratory and Healthcare Facilities	22 66

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0015 Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bends (22 66 53 00-0002)		
22 66 53 00-0016 EA 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bend.....	54.26	22.06
For Work In Restricted Working Space, Add	9.93	
22 66 53 00-0017 EA 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bend.....	69.42	29.14
For Work In Restricted Working Space, Add	13.10	
22 66 53 00-0018 EA 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bend.....	97.30	33.34
For Work In Restricted Working Space, Add	15.02	
22 66 53 00-0019 EA 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bend.....	119.77	44.12
For Work In Restricted Working Space, Add	19.86	
22 66 53 00-0020 EA 6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal 1/8 Bend.....	246.35	65.16
For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0021 Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tees (22 66 53 00-0002)		
22 66 53 00-0022 EA 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tee.....	97.50	47.20
For Work In Restricted Working Space, Add	21.23	
22 66 53 00-0023 EA 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tee.....	121.25	59.51
For Work In Restricted Working Space, Add	26.77	
22 66 53 00-0024 EA 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tee.....	161.80	65.16
For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0025 EA 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tee.....	224.22	85.57
For Work In Restricted Working Space, Add	38.48	
22 66 53 00-0026 EA 6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Tee.....	396.05	136.87
For Work In Restricted Working Space, Add	61.56	
22 66 53 00-0027 Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tees (22 66 53 00-0002)		
22 66 53 00-0028 EA 2" x 2" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee	121.21	59.51
For Work In Restricted Working Space, Add	26.77	
22 66 53 00-0029 EA 3" x 3" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee.....	157.33	65.16
For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0030 EA 3" x 3" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee	153.35	65.16
For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0031 EA 4" x 4" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee.....	214.02	85.57
For Work In Restricted Working Space, Add	38.48	
22 66 53 00-0032 EA 4" x 4" x 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee.....	217.87	85.57
For Work In Restricted Working Space, Add	38.48	
22 66 53 00-0033 EA 6" x 6" x 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Sanitary Tee.....	367.65	136.87
For Work In Restricted Working Space, Add	61.56	
22 66 53 00-0034 Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tees With Plug (22 66 53 00-0002)		
22 66 53 00-0035 EA 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tee With Plug	110.55	47.20
For Work In Restricted Working Space, Add	21.23	
22 66 53 00-0036 EA 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tee With Plug	124.41	59.51
For Work In Restricted Working Space, Add	26.77	
22 66 53 00-0037 EA 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tee With Plug	171.46	65.16
For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0038 EA 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tee With Plug	228.67	85.57
For Work In Restricted Working Space, Add	38.48	
22 66 53 00-0039 EA 6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Cleanout Tee With Plug	340.98	136.87
For Work In Restricted Working Space, Add	61.56	
22 66 53 00-0040 Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wyes (22 66 53 00-0002)		
22 66 53 00-0041 EA 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wye.....	104.82	47.20
For Work In Restricted Working Space, Add	21.23	
22 66 53 00-0042 EA 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wye.....	128.04	59.51
For Work In Restricted Working Space, Add	26.77	
22 66 53 00-0043 EA 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wye.....	165.84	65.16
For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0044 EA 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wye.....	227.57	85.57
For Work In Restricted Working Space, Add	38.48	
22 66 53 00-0045 EA 6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Wye.....	457.32	136.87
For Work In Restricted Working Space, Add	61.56	
22 66 53 00-0046 Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wyes (22 66 53 00-0002)		
22 66 53 00-0047 EA 2" x 2" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye.....	137.01	59.51
For Work In Restricted Working Space, Add	26.77	
22 66 53 00-0048 EA 3" x 3" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye.....	161.24	65.16
For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0049 EA 3" x 3" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye.....	161.24	65.16
For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0050 EA 4" x 4" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye.....	223.59	85.57
For Work In Restricted Working Space, Add	38.48	

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0051	EA	4" x 4" x 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... <i>For Work In Restricted Working Space, Add</i>	223.59 38.48	85.57
22 66 53 00-0052	EA	6" x 6" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... <i>For Work In Restricted Working Space, Add</i>	404.55 61.56	136.87
22 66 53 00-0053	EA	6" x 6" x 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... <i>For Work In Restricted Working Space, Add</i>	407.64 61.56	136.87
22 66 53 00-0054	EA	6" x 6" x 4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Reducing Wye..... <i>For Work In Restricted Working Space, Add</i>	368.95 61.56	136.87
22 66 53 00-0055		Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Crosses (22 66 53 00-0002)		
22 66 53 00-0056	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Cross..... <i>For Work In Restricted Working Space, Add</i>	130.36 26.54	59.00
22 66 53 00-0057	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Cross..... <i>For Work In Restricted Working Space, Add</i>	161.74 33.46	74.39
22 66 53 00-0058	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Cross..... <i>For Work In Restricted Working Space, Add</i>	222.61 36.65	81.47
22 66 53 00-0059	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Cross..... <i>For Work In Restricted Working Space, Add</i>	310.75 48.10	106.91
22 66 53 00-0060	EA	6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Sanitary Cross..... <i>For Work In Restricted Working Space, Add</i>	555.67 76.95	171.04
22 66 53 00-0061		Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bends (22 66 53 00-0002)		
22 66 53 00-0062	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend..... <i>For Work In Restricted Working Space, Add</i>	95.10 21.23	47.20
22 66 53 00-0063	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend..... <i>For Work In Restricted Working Space, Add</i>	124.79 26.77	59.51
22 66 53 00-0064	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend..... <i>For Work In Restricted Working Space, Add</i>	143.24 29.32	65.16
22 66 53 00-0065	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend..... <i>For Work In Restricted Working Space, Add</i>	199.04 38.48	85.57
22 66 53 00-0066	EA	2" x 2" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend..... <i>For Work In Restricted Working Space, Add</i>	114.20 26.77	59.51
22 66 53 00-0067	EA	3" x 3" x 1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend..... <i>For Work In Restricted Working Space, Add</i>	138.98 29.32	65.16
22 66 53 00-0068	EA	3" x 3" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend..... <i>For Work In Restricted Working Space, Add</i>	140.69 29.32	65.16
22 66 53 00-0069	EA	4" x 4" x 2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend..... <i>For Work In Restricted Working Space, Add</i>	192.71 38.48	85.57
22 66 53 00-0070	EA	4" x 4" x 3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Combination Wye And 1/8 Bend..... <i>For Work In Restricted Working Space, Add</i>	193.79 38.48	85.57
22 66 53 00-0071		Schedule 40 Polypropylene Acid Resistant DWV Fuseal P-Traps (22 66 53 00-0002)		
22 66 53 00-0072	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal P-Trap..... <i>For Work In Restricted Working Space, Add</i>	112.62 24.62	54.79
22 66 53 00-0073	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal P-Trap..... <i>For Work In Restricted Working Space, Add</i>	150.02 32.40	72.03
22 66 53 00-0074	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal P-Trap..... <i>For Work In Restricted Working Space, Add</i>	229.23 43.97	97.78
22 66 53 00-0075	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal P-Trap..... <i>For Work In Restricted Working Space, Add</i>	325.44 55.97	124.46
22 66 53 00-0076		Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapters (22 66 53 00-0002)		
22 66 53 00-0077	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapter..... <i>For Work In Restricted Working Space, Add</i>	53.61 9.93	22.06
22 66 53 00-0078	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapter..... <i>For Work In Restricted Working Space, Add</i>	65.04 13.10	29.14
22 66 53 00-0079	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapter..... <i>For Work In Restricted Working Space, Add</i>	76.50 15.02	33.34
22 66 53 00-0080	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapter..... <i>For Work In Restricted Working Space, Add</i>	104.32 19.86	44.12
22 66 53 00-0081	EA	6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Hub Adapter..... <i>For Work In Restricted Working Space, Add</i>	154.82 29.32	65.16
22 66 53 00-0082		Schedule 40 Polypropylene Acid Resistant DWV Fuseal Mechanical Joint Adapters (22 66 53 00-0002)		
22 66 53 00-0083	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Mechanical Joint Adapter..... <i>For Work In Restricted Working Space, Add</i>	51.04 9.93	22.06
22 66 53 00-0084	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Mechanical Joint Adapter..... <i>For Work In Restricted Working Space, Add</i>	66.98 13.10	29.14
22 66 53 00-0085	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Mechanical Joint Adapter..... <i>For Work In Restricted Working Space, Add</i>	80.07 15.02	33.34
22 66 53 00-0086	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Mechanical Joint Adapter..... <i>For Work In Restricted Working Space, Add</i>	107.82 19.86	44.12



		Plumbing	22
Gas and Vacuum Systems for Laboratory and Healthcare Facilities		22 60	22
Chemical-Waste Systems for Laboratory and Healthcare Facilities		22 66	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0087		Schedule 40 Polypropylene Acid Resistant DWV Fuseal Couplings (22 66 53 00-0002)		
22 66 53 00-0088	EA	1-1/2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Coupling.....	47.84	22.06
		For Work In Restricted Working Space, Add	9.93	
22 66 53 00-0089	EA	2" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Coupling.....	61.23	29.14
		For Work In Restricted Working Space, Add	13.10	
22 66 53 00-0090	EA	3" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Coupling.....	71.38	33.34
		For Work In Restricted Working Space, Add	15.02	
22 66 53 00-0091	EA	4" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Coupling.....	94.39	44.12
		For Work In Restricted Working Space, Add	19.66	
22 66 53 00-0092	EA	6" Schedule 40 Polypropylene Acid Resistant DWV Fuseal Coupling.....	138.72	65.16
		For Work In Restricted Working Space, Add	29.32	
22 66 53 00-0093		Glass Acid Resistant Drain-Waste-Vent (DWV) Pipe And Fittings (22 66 53)		
22 66 53 00-0094		Glass Acid Resistant DWV Pipe (22 66 53 00-0093)		
22 66 53 00-0095	LF	1-1/2" Glass Acid Resistant DWV Pipe.....	38.06	5.64
		For Work In Restricted Working Space, Add	3.39	
22 66 53 00-0096	LF	2" Glass Acid Resistant DWV Pipe.....	48.78	6.16
		For Work In Restricted Working Space, Add	3.69	
22 66 53 00-0097	LF	3" Glass Acid Resistant DWV Pipe.....	67.36	8.62
		For Work In Restricted Working Space, Add	5.19	
22 66 53 00-0098	LF	4" Glass Acid Resistant DWV Pipe.....	113.43	11.19
		For Work In Restricted Working Space, Add	6.72	
22 66 53 00-0099	LF	6" Glass Acid Resistant DWV Pipe.....	193.79	15.29
		For Work In Restricted Working Space, Add	9.16	
22 66 53 00-0100		Glass Acid Resistant DWV 90 Or 60 Degree Sweeps (22 66 53 00-0093)		
22 66 53 00-0101	EA	1-1/2" Glass Acid Resistant DWV 90 Or 60 Degree Sweep.....	107.13	25.14
		For Work In Restricted Working Space, Add	15.05	
22 66 53 00-0102	EA	2" Glass Acid Resistant DWV 90 Or 60 Degree Sweep.....	125.14	26.67
		For Work In Restricted Working Space, Add	15.97	
22 66 53 00-0103	EA	3" Glass Acid Resistant DWV 90 Or 60 Degree Sweep.....	178.98	30.27
		For Work In Restricted Working Space, Add	18.16	
22 66 53 00-0104	EA	4" Glass Acid Resistant DWV 90 Or 60 Degree Sweep.....	269.12	40.01
		For Work In Restricted Working Space, Add	24.01	
22 66 53 00-0105	EA	6" Glass Acid Resistant DWV 90 Or 60 Degree Sweep.....	687.12	55.41
		For Work In Restricted Working Space, Add	33.25	
22 66 53 00-0106		Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweeps (22 66 53 00-0093)		
22 66 53 00-0107	EA	1-1/2" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweep.....	107.34	25.24
		For Work In Restricted Working Space, Add	15.11	
22 66 53 00-0108	EA	2" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweep.....	124.73	26.37
		For Work In Restricted Working Space, Add	15.85	
22 66 53 00-0109	EA	3" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweep.....	178.77	30.17
		For Work In Restricted Working Space, Add	18.10	
22 66 53 00-0110	EA	4" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweep.....	269.13	40.01
		For Work In Restricted Working Space, Add	24.01	
22 66 53 00-0111	EA	6" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Sweep.....	687.10	55.41
		For Work In Restricted Working Space, Add	33.24	
22 66 53 00-0112		Glass Acid Resistant DWV 90 Or 60 Degree Bends (22 66 53 00-0093)		
22 66 53 00-0113	EA	1-1/2" Glass Acid Resistant DWV 90 Or 60 Degree Bend.....	108.90	25.24
		For Work In Restricted Working Space, Add	15.11	
22 66 53 00-0114	EA	2" Glass Acid Resistant DWV 90 Or 60 Degree Bend.....	126.60	26.37
		For Work In Restricted Working Space, Add	15.85	
22 66 53 00-0115	EA	3" Glass Acid Resistant DWV 90 Or 60 Degree Bend.....	182.03	30.17
		For Work In Restricted Working Space, Add	18.10	
22 66 53 00-0116	EA	4" Glass Acid Resistant DWV 90 Or 60 Degree Bend.....	269.13	40.01
		For Work In Restricted Working Space, Add	24.01	
22 66 53 00-0117		Glass Acid Resistant DWV 45 Or 22-1/2 Degree Bends (22 66 53 00-0093)		
22 66 53 00-0118	EA	1-1/2" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Bend.....	108.90	25.24
		For Work In Restricted Working Space, Add	15.11	
22 66 53 00-0119	EA	2" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Bend.....	126.60	26.37
		For Work In Restricted Working Space, Add	15.85	
22 66 53 00-0120	EA	3" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Bend.....	182.03	30.17
		For Work In Restricted Working Space, Add	18.10	
22 66 53 00-0121	EA	4" Glass Acid Resistant DWV 45 Or 22-1/2 Degree Bend.....	269.13	40.01
		For Work In Restricted Working Space, Add	24.01	
22 66 53 00-0122		Glass Acid Resistant DWV 90 Degree Bends With Long Leg (22 66 53 00-0093)		
22 66 53 00-0123	EA	1-1/2" Glass Acid Resistant DWV 90 Degree Bend With Long Leg.....	131.10	25.24
		For Work In Restricted Working Space, Add	15.11	
22 66 53 00-0124	EA	2" Glass Acid Resistant DWV 90 Degree Bends With Long Leg.....	158.50	26.37
		For Work In Restricted Working Space, Add	15.85	

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0125		Glass Acid Resistant DWV Double Quarter Bends (22 66 53 00-0093)		
22 66 53 00-0126	EA	1-1/2" Glass Acid Resistant DWV Double Quarter Bend	177.35	37.76
		<i>For Work In Restricted Working Space, Add</i>	22.67	
22 66 53 00-0127	EA	2" x 1-1/2" Glass Acid Resistant DWV Double Quarter Bend	232.26	39.10
		<i>For Work In Restricted Working Space, Add</i>	23.45	
22 66 53 00-0128	EA	2" Glass Acid Resistant DWV Double Quarter Bend	212.80	39.60
		<i>For Work In Restricted Working Space, Add</i>	23.78	
22 66 53 00-0129	EA	3" Glass Acid Resistant DWV Double Quarter Bend	297.50	45.24
		<i>For Work In Restricted Working Space, Add</i>	27.15	
22 66 53 00-0130	EA	4" Glass Acid Resistant DWV Double Quarter Bend	507.08	60.03
		<i>For Work In Restricted Working Space, Add</i>	36.01	
22 66 53 00-0131	EA	6" Glass Acid Resistant DWV Double Quarter Bend	787.52	83.11
		<i>For Work In Restricted Working Space, Add</i>	49.87	
22 66 53 00-0132		Glass Acid Resistant DWV Sanitary Tees (22 66 53 00-0093)		
22 66 53 00-0133	EA	1-1/2" Glass Acid Resistant DWV Sanitary Tee	167.75	37.97
		<i>For Work In Restricted Working Space, Add</i>	22.78	
22 66 53 00-0134	EA	2" Glass Acid Resistant DWV Sanitary Tee	170.82	39.50
		<i>For Work In Restricted Working Space, Add</i>	23.70	
22 66 53 00-0135	EA	3" Glass Acid Resistant DWV Sanitary Tee	227.26	45.14
		<i>For Work In Restricted Working Space, Add</i>	27.09	
22 66 53 00-0136	EA	4" Glass Acid Resistant DWV Sanitary Tee	365.78	60.03
		<i>For Work In Restricted Working Space, Add</i>	36.01	
22 66 53 00-0137	EA	6" Glass Acid Resistant DWV Sanitary Tee	824.54	83.11
		<i>For Work In Restricted Working Space, Add</i>	49.87	
22 66 53 00-0138		Glass Acid Resistant DWV Reducing Sanitary Tees (22 66 53 00-0093)		
22 66 53 00-0139	EA	2" x 1-1/2" Glass Acid Resistant DWV Reducing Sanitary Tee	169.80	38.99
		<i>For Work In Restricted Working Space, Add</i>	23.39	
22 66 53 00-0140	EA	3" x 1-1/2" Glass Acid Resistant DWV Reducing Sanitary Tee	206.25	42.58
		<i>For Work In Restricted Working Space, Add</i>	25.55	
22 66 53 00-0141	EA	3" x 2" Glass Acid Resistant DWV Reducing Sanitary Tee	220.90	43.61
		<i>For Work In Restricted Working Space, Add</i>	26.16	
22 66 53 00-0142	EA	4" x 1-1/2" Glass Acid Resistant DWV Reducing Sanitary Tee	288.86	52.84
		<i>For Work In Restricted Working Space, Add</i>	31.70	
22 66 53 00-0143	EA	4" x 2" Glass Acid Resistant DWV Reducing Sanitary Tee	304.98	53.36
		<i>For Work In Restricted Working Space, Add</i>	32.01	
22 66 53 00-0144	EA	4" x 3" Glass Acid Resistant DWV Reducing Sanitary Tee	321.60	54.90
		<i>For Work In Restricted Working Space, Add</i>	32.94	
22 66 53 00-0145	EA	6" x 2" Glass Acid Resistant DWV Reducing Sanitary Tee	599.57	68.74
		<i>For Work In Restricted Working Space, Add</i>	41.25	
22 66 53 00-0146	EA	6" x 3" Glass Acid Resistant DWV Reducing Sanitary Tee	650.88	70.28
		<i>For Work In Restricted Working Space, Add</i>	42.17	
22 66 53 00-0147	EA	6" x 4" Glass Acid Resistant DWV Reducing Sanitary Tee	663.79	75.41
		<i>For Work In Restricted Working Space, Add</i>	45.25	
22 66 53 00-0148		Glass Acid Resistant DWV Double Sanitary Tees (22 66 53 00-0093)		
22 66 53 00-0149	EA	1-1/2" Glass Acid Resistant DWV Double Sanitary Tee	241.41	50.27
		<i>For Work In Restricted Working Space, Add</i>	30.17	
22 66 53 00-0150	EA	2" Glass Acid Resistant DWV Double Sanitary Tee	246.52	52.84
		<i>For Work In Restricted Working Space, Add</i>	31.70	
22 66 53 00-0151	EA	3" Glass Acid Resistant DWV Double Sanitary Tee	328.06	60.54
		<i>For Work In Restricted Working Space, Add</i>	36.32	
22 66 53 00-0152	EA	4" Glass Acid Resistant DWV Double Sanitary Tee	556.74	80.03
		<i>For Work In Restricted Working Space, Add</i>	48.01	
22 66 53 00-0153	EA	6" Glass Acid Resistant DWV Double Sanitary Tee	1,030.62	110.81
		<i>For Work In Restricted Working Space, Add</i>	66.50	
22 66 53 00-0154		Glass Acid Resistant DWV Reducing Double Sanitary Tees (22 66 53 00-0093)		
22 66 53 00-0155	EA	2" x 1-1/2" Glass Acid Resistant DWV Reducing Double Sanitary Tee	244.47	51.81
		<i>For Work In Restricted Working Space, Add</i>	31.09	
22 66 53 00-0156	EA	3" x 1-1/2" Glass Acid Resistant DWV Reducing Double Sanitary Tee	287.45	55.41
		<i>For Work In Restricted Working Space, Add</i>	33.24	
22 66 53 00-0157	EA	3" x 2" Glass Acid Resistant DWV Reducing Double Sanitary Tee	306.16	56.43
		<i>For Work In Restricted Working Space, Add</i>	33.86	
22 66 53 00-0158	EA	4" x 1-1/2" Glass Acid Resistant DWV Reducing Double Sanitary Tee	465.38	65.16
		<i>For Work In Restricted Working Space, Add</i>	39.09	
22 66 53 00-0159	EA	4" x 2" Glass Acid Resistant DWV Reducing Double Sanitary Tee	458.48	66.70
		<i>For Work In Restricted Working Space, Add</i>	40.01	
22 66 53 00-0160	EA	4" x 3" Glass Acid Resistant DWV Reducing Double Sanitary Tee	493.56	70.28
		<i>For Work In Restricted Working Space, Add</i>	42.18	
22 66 53 00-0161	EA	6" x 2" Glass Acid Resistant DWV Reducing Double Sanitary Tee	667.30	82.08
		<i>For Work In Restricted Working Space, Add</i>	49.24	
22 66 53 00-0162	EA	6" x 3" Glass Acid Resistant DWV Reducing Double Sanitary Tee	729.78	85.67
		<i>For Work In Restricted Working Space, Add</i>	51.40	
22 66 53 00-0163	EA	6" x 4" Glass Acid Resistant DWV Reducing Double Sanitary Tee	828.43	95.43
		<i>For Work In Restricted Working Space, Add</i>	57.24	



Plumbing			22
Gas and Vacuum Systems for Laboratory and Healthcare Facilities			22 60
Chemical-Waste Systems for Laboratory and Healthcare Facilities			22 66

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
22 66 53 00-0164	Glass Acid Resistant DWV Tees (22 66 53 00-0093)				
22 66 53 00-0165	EA 1-1/2" Glass Acid Resistant DWV Tee.....	189.55		37.97	
	For Work In Restricted Working Space, Add	22.78			
22 66 53 00-0166	EA 2" Glass Acid Resistant DWV Tee.....	192.61		39.50	
	For Work In Restricted Working Space, Add	23.70			
22 66 53 00-0167	EA 3" Glass Acid Resistant DWV Tee.....	254.33		45.14	
	For Work In Restricted Working Space, Add	27.09			
22 66 53 00-0168	EA 4" Glass Acid Resistant DWV Tee.....	408.26		60.03	
	For Work In Restricted Working Space, Add	36.01			
22 66 53 00-0169	EA 6" Glass Acid Resistant DWV Tee.....	875.45		83.11	
	For Work In Restricted Working Space, Add	49.87			
22 66 53 00-0170	Glass Acid Resistant DWV Reducing Tees (22 66 53 00-0093)				
22 66 53 00-0171	EA 2" x 1-1/2" Glass Acid Resistant DWV Reducing Tee.....	191.57		38.99	
	For Work In Restricted Working Space, Add	23.39			
22 66 53 00-0172	EA 3" x 1-1/2" Glass Acid Resistant DWV Reducing Tee.....	228.97		42.58	
	For Work In Restricted Working Space, Add	25.55			
22 66 53 00-0173	EA 3" x 2" Glass Acid Resistant DWV Reducing Tee.....	234.29		43.61	
	For Work In Restricted Working Space, Add	26.17			
22 66 53 00-0174	EA 4" x 1-1/2" Glass Acid Resistant DWV Reducing Tee.....	293.85		52.84	
	For Work In Restricted Working Space, Add	31.71			
22 66 53 00-0175	EA 4" x 2" Glass Acid Resistant DWV Reducing Tee.....	302.64		53.36	
	For Work In Restricted Working Space, Add	32.01			
22 66 53 00-0176	EA 4" x 3" Glass Acid Resistant DWV Reducing Tee.....	372.67		54.90	
	For Work In Restricted Working Space, Add	32.94			
22 66 53 00-0177	EA 6" x 3" Glass Acid Resistant DWV Reducing Tee.....	744.25		70.28	
	For Work In Restricted Working Space, Add	42.17			
22 66 53 00-0178	EA 6" x 4" Glass Acid Resistant DWV Reducing Tee.....	773.01		75.41	
	For Work In Restricted Working Space, Add	45.24			
22 66 53 00-0179	Glass Acid Resistant DWV Test Tees With Cleanout (22 66 53 00-0093)				
22 66 53 00-0180	EA 1-1/2" Glass Acid Resistant DWV Test Tee With Cleanout.....	226.90		37.97	
	For Work In Restricted Working Space, Add	22.78			
22 66 53 00-0181	EA 2" Glass Acid Resistant DWV Test Tee With Cleanout.....	255.95		39.50	
	For Work In Restricted Working Space, Add	23.70			
22 66 53 00-0182	EA 3" Glass Acid Resistant DWV Test Tee With Cleanout.....	334.16		45.14	
	For Work In Restricted Working Space, Add	27.09			
22 66 53 00-0183	EA 4" Glass Acid Resistant DWV Test Tee With Cleanout.....	590.19		60.03	
	For Work In Restricted Working Space, Add	36.01			
22 66 53 00-0184	EA 6" Glass Acid Resistant DWV Test Tee With Cleanout.....	875.45		83.11	
	For Work In Restricted Working Space, Add	49.87			
22 66 53 00-0185	Glass Acid Resistant DWV Wyes (22 66 53 00-0093)				
22 66 53 00-0186	EA 1-1/2" Glass Acid Resistant DWV Wye.....	172.43		37.97	
	For Work In Restricted Working Space, Add	22.78			
22 66 53 00-0187	EA 2" Glass Acid Resistant DWV Wye.....	175.49		39.50	
	For Work In Restricted Working Space, Add	23.70			
22 66 53 00-0188	EA 3" Glass Acid Resistant DWV Wye.....	245.92		45.14	
	For Work In Restricted Working Space, Add	27.09			
22 66 53 00-0189	EA 4" Glass Acid Resistant DWV Wye.....	386.63		60.03	
	For Work In Restricted Working Space, Add	36.01			
22 66 53 00-0190	EA 6" Glass Acid Resistant DWV Wye.....	810.24		83.11	
	For Work In Restricted Working Space, Add	49.87			
22 66 53 00-0191	Glass Acid Resistant DWV Reducing Wyes (22 66 53 00-0093)				
22 66 53 00-0192	EA 2" x 1-1/2" Glass Acid Resistant DWV Reducing Wye.....	174.45		38.99	
	For Work In Restricted Working Space, Add	23.39			
22 66 53 00-0193	EA 3" x 1-1/2" Glass Acid Resistant DWV Reducing Wye.....	215.90		42.58	
	For Work In Restricted Working Space, Add	25.55			
22 66 53 00-0194	EA 3" x 2" Glass Acid Resistant DWV Reducing Wye.....	222.00		43.61	
	For Work In Restricted Working Space, Add	26.17			
22 66 53 00-0195	EA 4" x 1-1/2" Glass Acid Resistant DWV Reducing Wye.....	307.54		52.84	
	For Work In Restricted Working Space, Add	31.71			
22 66 53 00-0196	EA 4" x 2" Glass Acid Resistant DWV Reducing Wye.....	310.42		53.36	
	For Work In Restricted Working Space, Add	32.01			
22 66 53 00-0197	EA 4" x 3" Glass Acid Resistant DWV Reducing Wye.....	339.99		54.90	
	For Work In Restricted Working Space, Add	32.94			
22 66 53 00-0198	EA 6" x 2" Glass Acid Resistant DWV Reducing Wye.....	579.31		68.74	
	For Work In Restricted Working Space, Add	41.24			
22 66 53 00-0199	EA 6" x 3" Glass Acid Resistant DWV Reducing Wye.....	679.51		70.28	
	For Work In Restricted Working Space, Add	42.17			
22 66 53 00-0200	EA 6" x 4" Glass Acid Resistant DWV Reducing Wye.....	739.40		75.41	
	For Work In Restricted Working Space, Add	45.24			
22 66 53 00-0201	Glass Acid Resistant DWV Double Wyes (22 66 53 00-0093)				

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0202	EA	1-1/2" Glass Acid Resistant DWV Double Wye..... <i>For Work In Restricted Working Space, Add</i>	288.40 30.17	50.27
22 66 53 00-0203	EA	2" Glass Acid Resistant DWV Double Wye..... <i>For Work In Restricted Working Space, Add</i>	293.54 31.71	52.84
22 66 53 00-0204	EA	3" Glass Acid Resistant DWV Double Wye..... <i>For Work In Restricted Working Space, Add</i>	401.03 36.32	60.54
22 66 53 00-0205	EA	4" Glass Acid Resistant DWV Double Wye..... <i>For Work In Restricted Working Space, Add</i>	631.27 48.01	80.03
22 66 53 00-0206	EA	6" Glass Acid Resistant DWV Double Wye..... <i>For Work In Restricted Working Space, Add</i>	1,070.90 66.51	110.81
22 66 53 00-0207 Glass Acid Resistant DWV Reducing Double Wyes (22 66 53 00-0093)				
22 66 53 00-0208	EA	2" x 1-1/2" Glass Acid Resistant DWV Reducing Double Wye <i>For Work In Restricted Working Space, Add</i>	291.45 31.05	51.81
22 66 53 00-0209	EA	3" x 1-1/2" Glass Acid Resistant DWV Reducing Double Wye <i>For Work In Restricted Working Space, Add</i>	298.65 33.24	55.41
22 66 53 00-0210	EA	3" x 2" Glass Acid Resistant DWV Reducing Double Wye..... <i>For Work In Restricted Working Space, Add</i>	351.74 33.86	56.43
22 66 53 00-0211	EA	4" x 1-1/2" Glass Acid Resistant DWV Reducing Double Wye <i>For Work In Restricted Working Space, Add</i>	436.16 39.10	65.16
22 66 53 00-0212	EA	4" x 2" Glass Acid Resistant DWV Reducing Double Wye..... <i>For Work In Restricted Working Space, Add</i>	462.24 40.02	66.70
22 66 53 00-0213	EA	4" x 3" Glass Acid Resistant DWV Reducing Double Wye..... <i>For Work In Restricted Working Space, Add</i>	550.65 42.17	70.28
22 66 53 00-0214	EA	6" x 2" Glass Acid Resistant DWV Reducing Double Wye..... <i>For Work In Restricted Working Space, Add</i>	874.47 49.24	82.08
22 66 53 00-0215	EA	6" x 3" Glass Acid Resistant DWV Reducing Double Wye..... <i>For Work In Restricted Working Space, Add</i>	918.23 51.41	85.67
22 66 53 00-0216	EA	6" x 4" Glass Acid Resistant DWV Reducing Double Wye..... <i>For Work In Restricted Working Space, Add</i>	978.35 57.26	95.43
22 66 53 00-0217 Glass Acid Resistant DWV Combination Wye And 1/8 Bends (22 66 53 00-0093)				
22 66 53 00-0218	EA	1-1/2" Glass Acid Resistant DWV Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	197.07 22.78	37.97
22 66 53 00-0219	EA	2" Glass Acid Resistant DWV Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	201.17 23.70	39.50
22 66 53 00-0220	EA	3" Glass Acid Resistant DWV Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	261.17 27.09	45.14
22 66 53 00-0221	EA	4" Glass Acid Resistant DWV Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	394.56 36.01	60.03
22 66 53 00-0222	EA	6" Glass Acid Resistant DWV Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	787.99 49.87	83.11
22 66 53 00-0223 Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bends (22 66 53 00-0093)				
22 66 53 00-0224	EA	2" x 1-1/2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	200.13 23.39	38.99
22 66 53 00-0225	EA	3" x 1-1/2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	219.79 25.55	42.58
22 66 53 00-0226	EA	3" x 2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	237.56 26.17	43.61
22 66 53 00-0227	EA	4" x 1-1/2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	298.21 31.71	52.84
22 66 53 00-0228	EA	4" x 2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	312.44 32.01	53.36
22 66 53 00-0229	EA	4" x 3" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	342.32 32.94	54.90
22 66 53 00-0230	EA	6" x 2" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	580.71 41.24	68.74
22 66 53 00-0231	EA	6" x 3" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	665.97 42.17	70.28
22 66 53 00-0232	EA	6" x 4" Glass Acid Resistant DWV Reducing Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	677.14 45.24	75.41
22 66 53 00-0233 Glass Acid Resistant DWV Double Combination Wye And 1/8 Bends (22 66 53 00-0093)				
22 66 53 00-0234	EA	1-1/2" Double Glass Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	265.05 30.17	50.27
22 66 53 00-0235	EA	2" Double Glass Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	313.15 31.71	52.84
22 66 53 00-0236	EA	3" Double Glass Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	430.60 36.32	60.54
22 66 53 00-0237	EA	4" Double Glass Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	700.06 48.01	80.03
22 66 53 00-0238	EA	6" Double Glass Combination Wye And 1/8 Bend <i>For Work In Restricted Working Space, Add</i>	1,180.69 66.51	110.81



		Plumbing	22
Gas and Vacuum Systems for Laboratory and Healthcare Facilities		22 60	22
Chemical-Waste Systems for Laboratory and Healthcare Facilities		22 66	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0239		Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bends (22 66 53 00-0093)		
22 66 53 00-0240	EA	2" x 1-1/2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend.....	271.68	51.81
		For Work In Restricted Working Space, Add	31.08	
22 66 53 00-0241	EA	3" x 1-1/2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend.....	353.74	55.41
		For Work In Restricted Working Space, Add	33.24	
22 66 53 00-0242	EA	3" x 2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend.....	346.76	56.43
		For Work In Restricted Working Space, Add	33.86	
22 66 53 00-0243	EA	4" x 1-1/2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend.....	474.44	65.16
		For Work In Restricted Working Space, Add	39.10	
22 66 53 00-0244	EA	4" x 2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend.....	468.31	66.70
		For Work In Restricted Working Space, Add	40.02	
22 66 53 00-0245	EA	4" x 3" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend.....	529.02	70.28
		For Work In Restricted Working Space, Add	42.17	
22 66 53 00-0246	EA	6" x 2" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend.....	774.19	82.08
		For Work In Restricted Working Space, Add	49.24	
22 66 53 00-0247	EA	6" x 3" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend.....	826.40	85.67
		For Work In Restricted Working Space, Add	51.41	
22 66 53 00-0248	EA	6" x 4" Glass Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend.....	967.46	95.43
		For Work In Restricted Working Space, Add	57.26	
22 66 53 00-0249		Glass Acid Resistant DWV Partition Crosses (Compact) (22 66 53 00-0093)		
22 66 53 00-0250	EA	2" x 1-1/2" Glass Acid Resistant DWV Partition Cross (Compact).....	302.81	51.81
		For Work In Restricted Working Space, Add	31.08	
22 66 53 00-0251	EA	2" Glass Acid Resistant DWV Partition Cross (Compact).....	304.90	52.84
		For Work In Restricted Working Space, Add	31.71	
22 66 53 00-0252	EA	2" x 1-1/2" x 1-1/2" x 1-1/2" Glass Acid Resistant DWV Partition Cross (Compact).....	330.76	51.30
		For Work In Restricted Working Space, Add	30.78	
22 66 53 00-0253		Glass Acid Resistant DWV Upright Y Or H (Vent Branch) (22 66 53 00-0093)		
22 66 53 00-0254	EA	1-1/2" Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch).....	308.45	37.97
		For Work In Restricted Working Space, Add	22.78	
22 66 53 00-0255	EA	2" Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch).....	341.86	39.50
		For Work In Restricted Working Space, Add	23.70	
22 66 53 00-0256	EA	3" Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch).....	393.62	45.14
		For Work In Restricted Working Space, Add	27.09	
22 66 53 00-0257	EA	4" Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch).....	582.88	60.03
		For Work In Restricted Working Space, Add	36.01	
22 66 53 00-0258	EA	6" Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch).....	1,119.79	83.11
		For Work In Restricted Working Space, Add	49.87	
22 66 53 00-0259		Glass Acid Resistant DWV Reducing Upright Y Or H (Vent Branch) (22 66 53 00-0093)		
22 66 53 00-0260	EA	2" x 1-1/2" Reducing Glass Upright Y Or H (Vent Branch).....	309.54	38.99
		For Work In Restricted Working Space, Add	23.39	
22 66 53 00-0261	EA	3" x 1-1/2" Reducing Glass Upright Y Or H (Vent Branch).....	355.03	42.58
		For Work In Restricted Working Space, Add	25.55	
22 66 53 00-0262	EA	3" x 2" Reducing Glass Upright Y Or H (Vent Branch).....	379.65	43.61
		For Work In Restricted Working Space, Add	26.17	
22 66 53 00-0263	EA	4" x 1-1/2" Reducing Glass Upright Y Or H (Vent Branch).....	438.27	52.84
		For Work In Restricted Working Space, Add	31.71	
22 66 53 00-0264	EA	4" x 2" Reducing Glass Upright Y Or H (Vent Branch).....	466.21	53.36
		For Work In Restricted Working Space, Add	32.01	
22 66 53 00-0265	EA	4" x 3" Reducing Glass Upright Y Or H (Vent Branch).....	515.39	54.90
		For Work In Restricted Working Space, Add	32.94	
22 66 53 00-0266	EA	6" x 3" Reducing Glass Upright Y Or H (Vent Branch).....	750.63	70.28
		For Work In Restricted Working Space, Add	42.17	
22 66 53 00-0267	EA	6" x 4" Reducing Glass Upright Y Or H (Vent Branch).....	859.23	75.41
		For Work In Restricted Working Space, Add	45.24	
22 66 53 00-0268		Glass Acid Resistant DWV Reducers Or Increasers (22 66 53 00-0093)		
22 66 53 00-0269	EA	2" x 1-1/2" Glass Acid Resistant DWV Reducer Or Increaser.....	101.10	25.66
		For Eccentric Reducers Or Increasers, Add	3.98	
		For Work In Restricted Working Space, Add	15.39	
22 66 53 00-0270	EA	3" x 1-1/2" Glass Acid Resistant DWV Reducer Or Increaser.....	129.34	27.70
		For Eccentric Reducers Or Increasers, Add	5.91	
		For Work In Restricted Working Space, Add	16.62	
22 66 53 00-0271	EA	3" x 2" Glass Acid Resistant DWV Reducer Or Increaser.....	139.23	28.21
		For Eccentric Reducers Or Increasers, Add	6.62	
		For Work In Restricted Working Space, Add	16.93	
22 66 53 00-0272	EA	4" x 1-1/2" Glass Acid Resistant DWV Reducer Or Increaser.....	181.30	32.83
		For Eccentric Reducers Or Increasers, Add	9.25	
		For Work In Restricted Working Space, Add	19.70	
22 66 53 00-0273	EA	4" x 2" Glass Acid Resistant DWV Reducer Or Increaser.....	189.49	33.34
		For Eccentric Reducers Or Increasers, Add	9.82	
		For Work In Restricted Working Space, Add	20.01	
22 66 53 00-0274	EA	4" x 3" Glass Acid Resistant DWV Reducer Or Increaser.....	202.52	34.89
		For Eccentric Reducers Or Increasers, Add	10.62	
		For Work In Restricted Working Space, Add	20.93	

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0275 EA 6" x 1-1/2" Glass Acid Resistant DWV Reducer Or Increaser..... For Eccentric Reducers Or Increasers, Add For Work In Restricted Working Space, Add	417.22 26.89 24.32	40.53
22 66 53 00-0276 EA 6" x 2" Glass Acid Resistant DWV Reducer Or Increaser..... For Eccentric Reducers Or Increasers, Add For Work In Restricted Working Space, Add	439.57 28.60 24.62	41.04
22 66 53 00-0277 EA 6" x 3" Glass Acid Resistant DWV Reducer Or Increaser..... For Eccentric Reducers Or Increasers, Add For Work In Restricted Working Space, Add	467.08 30.55 25.55	42.58
22 66 53 00-0278 EA 6" x 4" Glass Acid Resistant DWV Reducer Or Increaser..... For Eccentric Reducers Or Increasers, Add For Work In Restricted Working Space, Add	488.40 31.44 28.63	47.71
22 66 53 00-0279 Glass Acid Resistant DWV Swivel P-Traps (22 66 53 00-0093)		
22 66 53 00-0280 EA 1-1/2" Glass Acid Resistant DWV Swivel P-Trap..... For Work In Restricted Working Space, Add	251.17 22.78	37.97
22 66 53 00-0281 EA 2" x 1-1/2" Glass Acid Resistant DWV Swivel P-Trap..... For Work In Restricted Working Space, Add	269.87 23.39	38.99
22 66 53 00-0282 EA 2" Glass Acid Resistant DWV Swivel P-Trap..... For Work In Restricted Working Space, Add	305.92 23.70	39.50
22 66 53 00-0283 EA 1-1/2" Glass Acid Resistant DWV Swivel P-Trap..... For Work In Restricted Working Space, Add	273.89 22.78	37.97
22 66 53 00-0284 EA 2" x 1-1/2" Glass Acid Resistant DWV Swivel P-Trap..... For Work In Restricted Working Space, Add	298.82 23.39	38.99
22 66 53 00-0285 EA 2" Glass Acid Resistant DWV Swivel P-Trap..... For Work In Restricted Working Space, Add	338.60 23.70	39.50
22 66 53 00-0286 EA 1-1/2" Glass Acid Resistant DWV Swivel P-Trap..... For Work In Restricted Working Space, Add	280.12 22.78	37.97
22 66 53 00-0287 EA 2" x 1-1/2" Glass Acid Resistant DWV Swivel P-Trap..... For Work In Restricted Working Space, Add	298.82 23.39	38.99
22 66 53 00-0288 EA 2" Glass Acid Resistant DWV Swivel P-Trap..... For Work In Restricted Working Space, Add	338.60 23.70	39.50
22 66 53 00-0289 Glass Acid Resistant DWV Drum P-Traps (22 66 53 00-0093)		
22 66 53 00-0290 EA 1-1/2" Glass Acid Resistant DWV Drum P-Trap..... For Work In Restricted Working Space, Add	350.78 22.78	37.97
22 66 53 00-0291 EA 2" x 1-1/2" Glass Acid Resistant DWV Drum P-Trap..... For Work In Restricted Working Space, Add	446.83 23.39	38.99
22 66 53 00-0292 EA 2" Glass Acid Resistant DWV Drum P-Trap..... For Work In Restricted Working Space, Add	460.30 23.70	39.50
22 66 53 00-0293 EA 1-1/2" Glass Acid Resistant DWV Drum P-Trap..... For Work In Restricted Working Space, Add	388.59 22.78	37.97
22 66 53 00-0294 EA 2" x 1-1/2" Glass Acid Resistant DWV Drum P-Trap..... For Work In Restricted Working Space, Add	412.74 23.39	38.99
22 66 53 00-0295 EA 2" Glass Acid Resistant DWV Drum P-Trap..... For Work In Restricted Working Space, Add	467.61 23.70	39.50
22 66 53 00-0296 Glass Acid Resistant DWV Cleanout Plugs (22 66 53 00-0093)		
22 66 53 00-0297 EA 1-1/2" Glass Acid Resistant DWV Cleanout Plug..... For Work In Restricted Working Space, Add	48.85 7.70	12.83
22 66 53 00-0298 EA 2" Glass Acid Resistant DWV Cleanout Plug..... For Work In Restricted Working Space, Add	55.93 8.00	13.34
22 66 53 00-0299 EA 3" Glass Acid Resistant DWV Cleanout Plug..... For Work In Restricted Working Space, Add	71.62 8.93	14.87
22 66 53 00-0300 EA 4" Glass Acid Resistant DWV Cleanout Plug..... For Work In Restricted Working Space, Add	115.34 12.00	20.01
22 66 53 00-0301 EA 6" Glass Acid Resistant DWV Cleanout Plug..... For Work In Restricted Working Space, Add	165.44 16.62	27.70
22 66 53 00-0302 Glass Acid Resistant DWV Sink Fittings (22 66 53 00-0093)		
22 66 53 00-0303 EA 1-1/2" Glass Acid Resistant DWV Interceptor Trap..... For Work In Restricted Working Space, Add	765.25 30.17	50.27
22 66 53 00-0304 EA 1-1/2" x 6-1/2" Long Glass Acid Resistant DWV Tailpiece Assembly..... For Work In Restricted Working Space, Add	68.77 7.70	12.83
22 66 53 00-0305 EA 1-1/2" x 10-1/2" Long Glass Acid Resistant DWV Tailpiece Assembly..... For Work In Restricted Working Space, Add	77.02 7.70	12.83
22 66 53 00-0306 EA 1-1/2" Split Coupling (Threaded To Beaded Pipe) For Glass Acid Resistant DWV Pipe And Fittings..... For Work In Restricted Working Space, Add	102.35 15.39	25.66
22 66 53 00-0307 EA 3" Diameter Hemispherical Glass Beaded Outlet For Glass Acid Resistant DWV Pipe And Fittings..... For Work In Restricted Working Space, Add	223.78 16.01	26.67
22 66 53 00-0308 EA 6" Diameter Hemispherical Glass Beaded Outlet For Glass Acid Resistant DWV Pipe And Fittings..... For Work In Restricted Working Space, Add	226.89 16.01	26.67
22 66 53 00-0309 EA 3" x 9" Oval Glass Beaded Outlet For Glass Acid Resistant DWV Pipe And Fittings..... For Work In Restricted Working Space, Add	258.01 16.01	26.67
22 66 53 00-0310 EA 3" x 6" Oval Glass Beaded Outlet For Glass Acid Resistant DWV Pipe And Fittings..... For Work In Restricted Working Space, Add	206.97 16.01	26.67



	Plumbing	22
Gas and Vacuum Systems for Laboratory and Healthcare Facilities	22 60	22
Chemical-Waste Systems for Laboratory and Healthcare Facilities	22 66	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0311 Glass Acid Resistant DWV Pipe To High Silicon Cast Iron Pipe Mechanical Joint Adapters (22 66 53 00-0093) Note: Includes teflon spacer.		
22 66 53 00-0312 EA 1-1/2" Glass Acid Resistant DWV Pipe To High Silicon Cast Iron Pipe Mechanical Joint Adapter For Work In Restricted Working Space, Add	191.20 22.72	37.86
22 66 53 00-0313 EA 2" Glass Acid Resistant DWV Pipe To High Silicon Cast Iron Pipe Mechanical Joint Adapter For Work In Restricted Working Space, Add	199.40 23.82	39.71
22 66 53 00-0314 EA 3" Glass Acid Resistant DWV Pipe To High Silicon Cast Iron Pipe Mechanical Joint Adapter For Work In Restricted Working Space, Add	281.94 27.75	45.24
22 66 53 00-0315 EA 4" Glass Acid Resistant DWV Pipe To High Silicon Cast Iron Pipe Mechanical Joint Adapter For Work In Restricted Working Space, Add	405.10 36.04	60.13
22 66 53 00-0316 Bead To Bead Drainline Couplings For Glass Acid Resistant DWV Pipe And Fittings (22 66 53 00-0093) Note: Includes segmented stainless steel outer band, Buna-N rubber compression liner with TFE seal ring, stainless steel bolt and silver plated stainless hex nut.		
22 66 53 00-0317 EA 1-1/2" Bead To Bead Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings.....	39.06	
22 66 53 00-0318 EA 2" Bead To Bead Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings.....	49.28	
22 66 53 00-0319 EA 3" Bead To Bead Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings.....	65.88	
22 66 53 00-0320 EA 4" Bead To Bead Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings.....	111.02	
22 66 53 00-0321 EA 6" Bead To Bead, Stainless Steel, TFE Seal Ring Couplings, Glass Piping.....	258.61	
22 66 53 00-0322 Bead To Plain End Drainline Couplings For Glass Acid Resistant DWV Pipe And Fittings (22 66 53 00-0093) Note: Includes stainless steel band with bolt, Buna-N rubber compression liner with TFE seal ring and silver plated stainless hex nut.		
22 66 53 00-0323 EA 1-1/2" Bead To Plain End Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings.....	50.37	
22 66 53 00-0324 EA 2" Bead To Plain End Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings.....	63.03	
22 66 53 00-0325 EA 3" Bead To Plain End Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings.....	107.02	
22 66 53 00-0326 EA 4" Bead To Plain End Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings.....	159.52	
22 66 53 00-0327 EA 6" Bead To Plain End Drainline Coupling For Glass Acid Resistant DWV Pipe And Fittings.....	388.96	
22 66 53 00-0328 Bell And Spigot High Silicon Iron Alloy Acid Resistant Drain-Waste-Vent (DWV) Pipe And Fittings (22 66 53) Note: Acid resistant. ASTM A518.		
22 66 53 00-0329 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe (22 66 53 00-0328)		
22 66 53 00-0330 LF 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	133.65	9.13
22 66 53 00-0331 LF 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	188.89	11.39
22 66 53 00-0332 LF 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	258.31	13.13
22 66 53 00-0333 LF 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	426.90	19.22
22 66 53 00-0334 LF 8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	756.80	25.59
22 66 53 00-0335 LF 10" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	1,344.66	32.27
22 66 53 00-0336 LF 12" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	2,404.44	43.47
22 66 53 00-0337 LF 15" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe.....	4,295.85	49.84
22 66 53 00-0338 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Fittings (22 66 53 00-0328)		
22 66 53 00-0339 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweeps (22 66 53 00-0338)		
22 66 53 00-0340 EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweep.....	511.46	77.77
22 66 53 00-0341 EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweep.....	677.43	85.57
22 66 53 00-0342 EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweep.....	1,120.32	102.40
22 66 53 00-0343 EA 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweep.....	1,692.65	126.97
22 66 53 00-0344 EA 8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Long Sweep.....	3,926.94	205.64
22 66 53 00-0345 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bends (22 66 53 00-0338)		
22 66 53 00-0346 EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	279.99	77.77
22 66 53 00-0347 EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	373.34	85.57
22 66 53 00-0348 EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	471.30	102.40
22 66 53 00-0349 EA 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	1,334.10	126.97
22 66 53 00-0350 EA 8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	3,063.24	205.64
22 66 53 00-0351 EA 10" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	4,679.27	256.20
22 66 53 00-0352 EA 12" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend.....	6,904.57	308.10
22 66 53 00-0353 Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bends (22 66 53 00-0338)		
22 66 53 00-0354 EA 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	279.99	77.77
22 66 53 00-0355 EA 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	373.34	85.57
22 66 53 00-0356 EA 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	471.30	102.40
22 66 53 00-0357 EA 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	961.94	126.97
22 66 53 00-0358 EA 8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	2,582.15	205.64
22 66 53 00-0359 EA 10" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	3,794.93	256.20
22 66 53 00-0360 EA 12" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend.....	5,407.51	308.10

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

22 66 53 00-0361	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/16 Bends (22 66 53 00-0338)			
22 66 53 00-0362	EA	2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend	279.99	77.77
22 66 53 00-0363	EA	3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend	373.34	85.57
22 66 53 00-0364	EA	4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend	471.06	102.30
22 66 53 00-0365	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Short Sweeps (22 66 53 00-0338)			
22 66 53 00-0366	EA	2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Short Sweep	397.99	77.77
22 66 53 00-0367	EA	3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Short Sweep	731.89	85.57
22 66 53 00-0368	EA	4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Short Sweep	816.23	102.40
22 66 53 00-0369	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tees (22 66 53 00-0338)			
22 66 53 00-0370	EA	2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee	392.35	116.36
22 66 53 00-0371	EA	3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee	501.99	128.97
22 66 53 00-0372	EA	4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee	712.02	154.01
22 66 53 00-0373	EA	6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee	1,239.18	190.81
22 66 53 00-0374	EA	8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee	3,916.75	308.72
22 66 53 00-0375	EA	10" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Tee	5,586.11	385.50
22 66 53 00-0376	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tees (22 66 53 00-0338)			
22 66 53 00-0377	EA	2" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee	366.95	111.53
22 66 53 00-0378	EA	3" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee	433.72	119.74
22 66 53 00-0379	EA	3" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee	489.90	123.94
22 66 53 00-0380	EA	4" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee	563.76	136.87
22 66 53 00-0381	EA	4" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee	606.61	141.18
22 66 53 00-0382	EA	4" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee	671.76	145.40
22 66 53 00-0383	EA	6" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee	861.03	165.11
22 66 53 00-0384	EA	6" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee	961.97	169.37
22 66 53 00-0385	EA	6" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Sanitary Tee	1,082.56	177.15
22 66 53 00-0386	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Tees (22 66 53 00-0338)			
22 66 53 00-0387	EA	2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Tee	455.83	116.36
22 66 53 00-0388	EA	3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Tee	555.96	128.67
22 66 53 00-0389	EA	4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Tee	770.98	154.01
22 66 53 00-0390	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Tees (22 66 53 00-0338)			
22 66 53 00-0391	EA	2" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Tee	430.46	111.53
22 66 53 00-0392	EA	3" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Tee	545.24	124.56
22 66 53 00-0393	EA	4" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Tee	661.67	141.60
22 66 53 00-0394	EA	4" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Tee	713.26	145.80
22 66 53 00-0395	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wyes (22 66 53 00-0338)			
22 66 53 00-0396	EA	2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wye	388.02	116.56
22 66 53 00-0397	EA	3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wye	551.92	128.97
22 66 53 00-0398	EA	4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wye	711.83	153.91
22 66 53 00-0399	EA	6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wye	1,247.15	190.10
22 66 53 00-0400	EA	8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Wye	4,942.00	308.42
22 66 53 00-0401	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wyes (22 66 53 00-0338)			
22 66 53 00-0402	EA	2" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	403.23	111.53
22 66 53 00-0403	EA	3" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	433.67	119.74
22 66 53 00-0404	EA	3" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	459.23	124.67
22 66 53 00-0405	EA	4" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	513.83	136.87
22 66 53 00-0406	EA	4" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	534.23	141.39
22 66 53 00-0407	EA	4" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	654.25	145.80
22 66 53 00-0408	EA	6" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	910.50	165.31
22 66 53 00-0409	EA	6" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	1,093.59	169.37
22 66 53 00-0410	EA	6" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	1,141.56	177.15
22 66 53 00-0411	EA	8" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	2,873.82	248.81
22 66 53 00-0412	EA	8" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	3,108.52	257.03
22 66 53 00-0413	EA	8" x 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	3,822.57	270.18
22 66 53 00-0414	Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bends (22 66 53 00-0338)			
22 66 53 00-0415	EA	2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	473.93	116.36
22 66 53 00-0416	EA	3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	569.57	128.67



	Plumbing	22	
	Gas and Vacuum Systems for Laboratory and Healthcare Facilities	22 60	22
	Chemical-Waste Systems for Laboratory and Healthcare Facilities	22 66	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0417	EA	4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	861.75	154.01
22 66 53 00-0418	EA	6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	1,365.52	190.30
22 66 53 00-0419		Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bends (22 66 53 00-0338)		
22 66 53 00-0420	EA	2" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	385.07	111.53
22 66 53 00-0421	EA	3" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	451.83	119.74
22 66 53 00-0422	EA	3" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	504.39	124.96
22 66 53 00-0423	EA	4" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	545.60	136.87
22 66 53 00-0424	EA	4" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	638.98	141.60
22 66 53 00-0425	EA	4" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	731.35	145.70
22 66 53 00-0426	EA	6" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	969.43	165.31
22 66 53 00-0427	EA	6" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	1,225.28	169.47
22 66 53 00-0428	EA	6" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	1,346.22	177.45
22 66 53 00-0429		Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducers (22 66 53 00-0338)		
22 66 53 00-0430	EA	2" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer	236.89	73.26
22 66 53 00-0431	EA	3" x 1-1/2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer	261.17	77.37
22 66 53 00-0432	EA	3" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer	294.58	81.47
22 66 53 00-0433	EA	4" x 2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer	493.98	90.30
22 66 53 00-0434	EA	4" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer	518.30	94.50
22 66 53 00-0435	EA	6" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer	567.33	105.93
22 66 53 00-0436	EA	6" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer	747.38	114.02
22 66 53 00-0437	EA	8" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer	1,089.00	154.26
22 66 53 00-0438	EA	8" x 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Reducer	1,158.53	167.31
22 66 53 00-0439		Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Increases (22 66 53 00-0338)		
22 66 53 00-0440	EA	2" x 3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Increaser	646.83	171.04
22 66 53 00-0441	EA	2" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Increaser	882.83	171.04
22 66 53 00-0442	EA	3" x 4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Increaser	904.01	171.04
22 66 53 00-0443	EA	4" x 6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Sanitary Increaser	1,012.19	236.24
22 66 53 00-0444		Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV P-Traps (22 66 53 00-0338)		
22 66 53 00-0445	EA	2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV P-Trap	779.23	77.77
22 66 53 00-0446	EA	3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV P-Trap	945.20	85.57
22 66 53 00-0447	EA	4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV P-Trap	1,152.09	102.40
22 66 53 00-0448	EA	6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV P-Trap	3,499.01	126.97
22 66 53 00-0449		Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hubs (22 66 53 00-0338)		
22 66 53 00-0450	EA	2" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hub	366.22	77.77
22 66 53 00-0451	EA	3" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hub	468.65	85.57
22 66 53 00-0452	EA	4" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hub	652.84	102.40
22 66 53 00-0453	EA	6" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hub	852.26	126.97
22 66 53 00-0454	EA	8" Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Double Hub	1,690.76	177.15
22 66 53 00-0455		Joint Material For Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe And Fittings (22 66 53 00-0328)		
		Note: Labor costs for installation of lead and oakum are included in the installation costs for fittings.		
22 66 53 00-0456	LB	Lead (1 LB/Diameter Inch) Joint Material For Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe And Fittings.....	7.74	
22 66 53 00-0457	LB	Seal-Tite Packing (1/8 LB/Diameter Inch) Joint Material For Bell And Spigot High Silicon Iron Alloy Acid Resistant DWV Pipe And Fittings	83.21	
22 66 53 00-0458		Mechanical Joint High Silicon Iron Alloy Acid Resistant Drain-Waste-Vent (DWV) Pipe And Fittings (22 66 53)		
		Note: ASTM A518.		
22 66 53 00-0459		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe (22 66 53 00-0458)		
22 66 53 00-0460	LF	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe.....	106.25	6.87
22 66 53 00-0461	LF	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe.....	121.01	7.60
22 66 53 00-0462	LF	3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe.....	167.40	9.54
22 66 53 00-0463	LF	4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe.....	211.71	11.08
22 66 53 00-0464		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Fittings (22 66 53 00-0458)		
22 66 53 00-0465		Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Long Sweeps (22 66 53 00-0464)		
22 66 53 00-0466	EA	1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Long Sweep.....	376.72	54.48
22 66 53 00-0467	EA	2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Long Sweep	405.50	61.56

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0468 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Long Sweep	564.73	67.93
22 66 53 00-0469 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Long Sweep	681.38	82.08
22 66 53 00-0470 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bends (22 66 53 00-0464)		
22 66 53 00-0471 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend	199.71	54.48
22 66 53 00-0472 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend	241.16	60.94
22 66 53 00-0473 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend	315.46	68.13
22 66 53 00-0474 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend	417.22	81.47
22 66 53 00-0475 EA 2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/4 Bend	236.08	57.56
22 66 53 00-0476 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/8 Bends (22 66 53 00-0464)		
22 66 53 00-0477 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend	199.71	54.48
22 66 53 00-0478 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend	241.16	60.94
22 66 53 00-0479 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend	315.46	68.13
22 66 53 00-0480 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/8 Bend	417.22	81.47
22 66 53 00-0481 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/6 Bends (22 66 53 00-0464)		
22 66 53 00-0482 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/6 Bend	240.56	54.48
22 66 53 00-0483 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/6 Bend	304.70	60.94
22 66 53 00-0484 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/6 Bend	483.39	68.13
22 66 53 00-0485 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/6 Bend	539.76	81.47
22 66 53 00-0486 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/16 Bends (22 66 53 00-0464)		
22 66 53 00-0487 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend	231.48	54.48
22 66 53 00-0488 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend	277.47	60.94
22 66 53 00-0489 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend	442.54	68.13
22 66 53 00-0490 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV 1/16 Bend	498.91	81.47
22 66 53 00-0491 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Branch 1/4 Bends (22 66 53 00-0464)		
22 66 53 00-0492 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Branch 1/4 Bend	349.85	81.98
22 66 53 00-0493 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Straight Tees (22 66 53 00-0464)		
22 66 53 00-0494 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Straight Tee	277.23	81.98
22 66 53 00-0495 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Straight Tee	347.21	92.34
22 66 53 00-0496 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Straight Tee	467.45	102.91
22 66 53 00-0497 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Straight Tee	724.77	123.23
22 66 53 00-0498 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tees (22 66 53 00-0464)		
22 66 53 00-0499 EA 2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee	323.86	88.86
22 66 53 00-0500 EA 3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee	402.32	95.83
22 66 53 00-0501 EA 3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee	430.09	99.21
22 66 53 00-0502 EA 4" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee	459.10	109.48
22 66 53 00-0503 EA 4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee	509.18	112.56
22 66 53 00-0504 EA 4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Reducing Tee	555.14	115.94
22 66 53 00-0505 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Wyes (22 66 53 00-0464)		
22 66 53 00-0506 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Wye	277.64	82.29
22 66 53 00-0507 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Wye	329.06	92.34
22 66 53 00-0508 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Wye	449.30	102.91
22 66 53 00-0509 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Wye	724.77	123.23
22 66 53 00-0510 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wyes (22 66 53 00-0464)		
22 66 53 00-0511 EA 2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	310.93	89.37
22 66 53 00-0512 EA 3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	388.68	95.73
22 66 53 00-0513 EA 3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	407.85	99.53
22 66 53 00-0514 EA 4" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	459.59	109.79
22 66 53 00-0515 EA 4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	510.11	113.17
22 66 53 00-0516 EA 4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Wye	541.97	116.25
22 66 53 00-0517 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wyes (22 66 53 00-0464)		
22 66 53 00-0518 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	422.99	109.58
22 66 53 00-0519 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	547.93	123.33



Plumbing		22
Gas and Vacuum Systems for Laboratory and Healthcare Facilities		22 60
Chemical-Waste Systems for Laboratory and Healthcare Facilities		22 66

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0520 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	712.88	136.47
22 66 53 00-0521 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	935.84	164.07
22 66 53 00-0522 EA 2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	469.04	116.04
22 66 53 00-0523 EA 3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	529.20	122.93
22 66 53 00-0524 EA 3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	639.30	129.70
22 66 53 00-0525 EA 4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	705.48	143.64
22 66 53 00-0526 EA 4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Wye	861.62	150.93
22 66 53 00-0527 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Crosses (22 66 53 00-0464)		
22 66 53 00-0528 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	477.39	109.58
22 66 53 00-0529 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	565.83	123.13
22 66 53 00-0530 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	832.05	137.18
22 66 53 00-0531 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	1,176.65	164.27
22 66 53 00-0532 EA 2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	514.36	116.04
22 66 53 00-0533 EA 3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	688.01	122.93
22 66 53 00-0534 EA 3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	725.46	129.70
22 66 53 00-0535 EA 4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	773.50	143.54
22 66 53 00-0536 EA 4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Sanitary Cross	1,001.52	150.31
22 66 53 00-0537 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bends (22 66 53 00-0464)		
22 66 53 00-0538 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	313.13	81.67
22 66 53 00-0539 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	365.37	92.34
22 66 53 00-0540 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	449.30	102.91
22 66 53 00-0541 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Wye And 1/8 Bend	774.70	123.23
22 66 53 00-0542 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bends (22 66 53 00-0464)		
22 66 53 00-0543 EA 2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	346.63	88.96
22 66 53 00-0544 EA 3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	389.09	96.04
22 66 53 00-0545 EA 3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	426.00	99.53
22 66 53 00-0546 EA 4" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	591.21	109.79
22 66 53 00-0547 EA 4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	605.42	113.17
22 66 53 00-0548 EA 4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Combination Wye And 1/8 Bend	682.66	116.25
22 66 53 00-0549 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Combination Wye And 1/8 Bends (22 66 53 00-0464)		
22 66 53 00-0550 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Combination Wye And 1/8 Bend	508.93	109.37
22 66 53 00-0551 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Combination Wye And 1/8 Bend	647.44	123.03
22 66 53 00-0552 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Combination Wye And 1/8 Bend	953.85	136.77
22 66 53 00-0553 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Double Combination Wye And 1/8 Bend	1,145.41	164.58
22 66 53 00-0554 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bends (22 66 53 00-0464)		
22 66 53 00-0555 EA 2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	555.21	116.04
22 66 53 00-0556 EA 3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	674.38	122.81
22 66 53 00-0557 EA 3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	702.77	129.70
22 66 53 00-0558 EA 4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	782.57	143.54
22 66 53 00-0559 EA 4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducing Double Combination Wye And 1/8 Bend	1,001.52	150.31
22 66 53 00-0560 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducers-Increasers (22 66 53 00-0464)		
22 66 53 00-0561 EA 2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	236.94	58.17
22 66 53 00-0562 EA 3" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	269.31	61.56
22 66 53 00-0563 EA 3" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	316.45	71.83
22 66 53 00-0564 EA 4" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	383.69	68.23
22 66 53 00-0565 EA 4" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	406.97	71.61
22 66 53 00-0566 EA 4" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Reducer-Increaser	430.23	75.00
22 66 53 00-0567 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Cleanout And Test Tees (22 66 53 00-0464)		
22 66 53 00-0568 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Cleanout And Test Tee	221.59	47.91
22 66 53 00-0569 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Cleanout And Test Tee	258.24	54.17

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0570 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Cleanout And Test Tee	305.24	61.36
22 66 53 00-0571 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Combination Cleanout And Test Tee	574.96	74.70
22 66 53 00-0572 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe Plugs (22 66 53 00-0464)		
22 66 53 00-0573 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe Plug.....	95.32	27.30
22 66 53 00-0574 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe Plug.....	113.77	30.47
22 66 53 00-0575 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe Plug.....	123.69	34.07
22 66 53 00-0576 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe Plug.....	160.95	40.73
22 66 53 00-0577 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV P-Traps (22 66 53 00-0464)		
22 66 53 00-0578 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV P-Trap.....	421.62	54.17
22 66 53 00-0579 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV P-Trap.....	431.78	60.94
22 66 53 00-0580 EA 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV P-Trap.....	537.85	68.13
22 66 53 00-0581 EA 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV P-Trap.....	689.53	81.47
22 66 53 00-0582 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Running Acid Resistant DWV P-Trap.....	595.62	58.28
22 66 53 00-0583 EA 2" Mechanical Joint High Silicon Iron Alloy Running Acid Resistant DWV P-Trap.....	828.28	65.05
22 66 53 00-0584 EA 3" Mechanical Joint High Silicon Iron Alloy Running Acid Resistant DWV P-Trap.....	1,006.29	71.83
22 66 53 00-0585 EA 4" Mechanical Joint High Silicon Iron Alloy Running Acid Resistant DWV P-Trap.....	1,253.81	85.57
22 66 53 00-0586 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Centrifugal Drum Traps (22 66 53 00-0464)		
22 66 53 00-0587 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Centrifugal Drum P-Trap.....	805.28	61.87
22 66 53 00-0588 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Centrifugal Drum P-Trap.....	1,287.18	68.44
22 66 53 00-0589 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Centrifugal Drum S-Trap.....	841.21	61.56
22 66 53 00-0590 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Centrifugal Drum S-Trap.....	1,287.18	68.44
22 66 53 00-0591 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Traps (22 66 53 00-0464)		
22 66 53 00-0592 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Short P-Trap	745.90	61.56
22 66 53 00-0593 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Short P-Trap	878.71	68.44
22 66 53 00-0594 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Long P-Trap.....	868.44	61.56
22 66 53 00-0595 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Long S-Trap.....	1,945.28	68.44
22 66 53 00-0596 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Swivel Type Long S-Trap.....	1,141.95	68.44
22 66 53 00-0597 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Return Bends (22 66 53 00-0464)		
22 66 53 00-0598 EA 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Return Bend.....	295.39	54.79
22 66 53 00-0599 EA 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Return Bend.....	391.89	61.56
22 66 53 00-0600 Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Threaded Adapters (22 66 53 00-0464)		
22 66 53 00-0601 EA 1-1/2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Threaded Adapter.....	143.26	41.04
22 66 53 00-0602 EA 1-1/2" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Threaded Adapter	280.01	44.53
22 66 53 00-0603 EA 2" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Threaded Adapter	194.96	51.30
22 66 53 00-0604 Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter (22 66 53 00-0464)		
22 66 53 00-0605 EA 1-1/2" x 1-1/2" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	278.21	58.38
22 66 53 00-0606 EA 1-1/2" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	305.61	61.56
22 66 53 00-0607 EA 1-1/2" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	342.50	64.94
22 66 53 00-0608 EA 1-1/2" x 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	366.12	71.61
22 66 53 00-0609 EA 2" x 2" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	342.55	65.05
22 66 53 00-0610 EA 2" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	361.25	68.44
22 66 53 00-0611 EA 2" x 4" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	389.38	75.00
22 66 53 00-0612 EA 3" x 3" Mechanical Joint High Silicon Iron Alloy Acid Resistant Hub To Mechanical Joint Adapter	448.12	71.83
22 66 53 00-0613 EA 4" x 4" Mechanical Joint High Silicon Iron Alloy Hub To Mechanical Joint Adapter	554.89	85.57
22 66 53 00-0614 Mechanical Joint Couplings For Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe And Fittings (22 66 53 00-0464)		
22 66 53 00-0615 EA 1-1/2" Mechanical Joint Couplings For Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe And Fitting.....	108.93	
22 66 53 00-0616 EA 2" Mechanical Joint Couplings For Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe And Fitting.....	127.08	
22 66 53 00-0617 EA 3" Mechanical Joint Couplings For Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe And Fitting.....	136.16	
22 66 53 00-0618 EA 4" Mechanical Joint Couplings For Mechanical Joint High Silicon Iron Alloy Acid Resistant DWV Pipe And Fitting.....	149.77	
22 66 53 00-0619 Mechanical Joint High Silicon Iron Alloy Acid Resistant Sink Fittings (22 66 53 00-0464)		
22 66 53 00-0620 EA Mechanical Joint High Silicon Iron Alloy Acid Resistant Sink Outlet.....	789.91	27.40
22 66 53 00-0621 EA Mechanical Joint High Silicon Iron Alloy Acid Resistant Stopper.....	297.37	13.64



	Plumbing	22
Gas and Vacuum Systems for Laboratory and Healthcare Facilities	22 60	22
Chemical-Waste Systems for Laboratory and Healthcare Facilities	22 66	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0622 EA Mechanical Joint High Silicon Iron Alloy Acid Resistant Sink Overflow	560.61	13.64
22 66 53 00-0623 Mechanical Joint High Silicon Iron Alloy Acid Resistant Floor Drains With Stainless Steel Strainer Plates (22 66 53 00-0464)		
22 66 53 00-0624 EA Mechanical Joint High Silicon Iron Alloy Acid Resistant Floor Drain With Stainless Steel Strainer.....	2,810.36	136.87
22 66 53 00-0625 EA Mechanical Joint High Silicon Iron Alloy Acid Resistant Sediment Basin Floor Drain With Stainless Steel Strainer.....	3,483.25	143.75
22 66 53 00-0626 EA Stainless Steel Funnel Attachment For Mechanical Joint High Silicon Iron Alloy Acid Resistant Floor Drain	2,389.65	13.64
22 66 53 00-0627 Chlorinated Polyvinyl Chloride (CPVC) Drain-Waste-Vent (DWV) Pipe And Fittings (ASTM F2618) (22 66 53)		
22 66 53 00-0628 Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe (22 66 53 00-0627) Note: Excludes fittings or hangers.		
22 66 53 00-0629 LF 1-1/2" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe.....	17.14	4.31
22 66 53 00-0630 LF 2" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe.....	22.20	5.13
22 66 53 00-0631 LF 3" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe.....	37.22	7.39
22 66 53 00-0632 LF 4" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe.....	49.12	8.00
22 66 53 00-0633 LF 6" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe.....	82.23	10.11
22 66 53 00-0634 LF 8" Schedule 40 Chlorinated Polyvinyl Chloride (CPVC) DWV Pipe.....	190.78	13.45
22 66 53 00-0635 Chlorinated Polyvinyl Chloride (CPVC) DWV Fittings (22 66 53 00-0627)		
22 66 53 00-0636 Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends (22 66 53 00-0635)		
22 66 53 00-0637 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends..... Note: 0.125	66.75	17.13
For Work In Restricted Working Space, Add	7.70	
22 66 53 00-0638 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends..... Note: 0.16	83.87	21.86
For Work In Restricted Working Space, Add	9.85	
22 66 53 00-0639 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends..... Note: 0.215	130.81	29.34
For Work In Restricted Working Space, Add	13.24	
22 66 53 00-0640 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends..... Note: 0.25	189.22	34.17
For Work In Restricted Working Space, Add	15.39	
22 66 53 00-0641 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends..... Note: 0.325	423.62	44.43
For Work In Restricted Working Space, Add	20.01	
22 66 53 00-0642 EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/4 Bends..... Note: 0.438	587.26	59.82
For Work In Restricted Working Space, Add	26.93	
22 66 53 00-0643 Chlorinated Polyvinyl Chloride (CPVC) DWV Long Sweep 1/4 Bends (22 66 53 00-0635)		
22 66 53 00-0644 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	68.17 7.70	17.13
22 66 53 00-0645 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	90.78 9.85	21.86
22 66 53 00-0646 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	143.27 13.24	29.34
22 66 53 00-0647 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Long Sweep 1/4 Bends..... For Work In Restricted Working Space, Add	193.79 15.39	34.17
22 66 53 00-0648 Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends (22 66 53 00-0635)		
22 66 53 00-0649 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	66.03 7.70	17.13
22 66 53 00-0650 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	82.01 9.85	21.86
22 66 53 00-0651 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	134.39 13.24	29.34
22 66 53 00-0652 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	153.60 15.39	34.17
22 66 53 00-0653 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	365.48 20.01	44.43
22 66 53 00-0654 EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/8 Bends..... For Work In Restricted Working Space, Add	520.60 26.93	59.82
22 66 53 00-0655 Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends (22 66 53 00-0635)		
22 66 53 00-0656 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends..... For Work In Restricted Working Space, Add	66.84 7.70	17.13
22 66 53 00-0657 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends..... For Work In Restricted Working Space, Add	81.95 9.85	21.86
22 66 53 00-0658 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends..... For Work In Restricted Working Space, Add	132.91 13.24	29.34
22 66 53 00-0659 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends..... For Work In Restricted Working Space, Add	165.20 15.39	34.17

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0660	EA	6" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends <i>For Work In Restricted Working Space, Add</i>	294.45 20.01	44.43
22 66 53 00-0661	EA	8" Chlorinated Polyvinyl Chloride (CPVC) DWV 1/16 Bends <i>For Work In Restricted Working Space, Add</i>	324.62 26.93	59.82
22 66 53 00-0662		Chlorinated Polyvinyl Chloride (CPVC) DWV Double 1/4 Bends (22 66 53 00-0635)		
22 66 53 00-0663	EA	3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double 1/4 Bends <i>For Work In Restricted Working Space, Add</i>	403.07 19.65	44.12
22 66 53 00-0664	EA	2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double 1/4 Bends <i>For Work In Restricted Working Space, Add</i>	312.77 14.78	32.83
22 66 53 00-0665	EA	1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double 1/4 Bends <i>For Work In Restricted Working Space, Add</i>	189.25 11.54	25.66
22 66 53 00-0666		Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees (22 66 53 00-0635)		
22 66 53 00-0667	EA	1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	89.51 11.54	25.66
22 66 53 00-0668	EA	2" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	110.40 14.78	32.83
22 66 53 00-0669	EA	3" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	188.55 19.85	44.12
22 66 53 00-0670	EA	4" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	260.25 23.09	51.30
22 66 53 00-0671	EA	6" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	711.00 30.01	66.59
22 66 53 00-0672	EA	8" Chlorinated Polyvinyl Chloride (CPVC) DWV Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	986.01 40.40	89.67
22 66 53 00-0673		Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees (22 66 53 00-0635)		
22 66 53 00-0674	EA	2" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	103.10 12.62	28.01
22 66 53 00-0675	EA	2" x 1-1/2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	109.45 13.70	30.37
22 66 53 00-0676	EA	2" x 2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	106.69 13.70	30.37
22 66 53 00-0677	EA	3" x 3" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	163.15 17.08	37.97
22 66 53 00-0678	EA	3" x 3" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	174.73 18.16	40.33
22 66 53 00-0679	EA	4" x 4" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	231.49 20.32	45.14
22 66 53 00-0680	EA	4" x 4" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	244.47 22.01	48.84
22 66 53 00-0681	EA	6" x 6" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	520.16 27.70	61.46
22 66 53 00-0682	EA	8" x 8" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	1,231.08 34.63	76.85
22 66 53 00-0683		Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tees (22 66 53 00-0635)		
22 66 53 00-0684	EA	1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	128.21 15.39	34.17
22 66 53 00-0685	EA	2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	156.37 19.70	43.71
22 66 53 00-0686	EA	3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	209.53 26.47	58.80
22 66 53 00-0687	EA	4" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tees <i>For Work In Restricted Working Space, Add</i>	264.47 30.78	68.34
22 66 53 00-0688		Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Double Sanitary Tees (22 66 53 00-0635)		
22 66 53 00-0689	EA	2" x 2" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	159.79 17.54	38.99
22 66 53 00-0690	EA	3" x 3" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	190.86 20.93	46.48
22 66 53 00-0691	EA	3" x 3" x 2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	247.43 23.09	51.30
22 66 53 00-0692	EA	4" x 4" x 2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	215.68 25.24	56.03
22 66 53 00-0693	EA	4" x 4" x 3" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Sanitary Tee <i>For Work In Restricted Working Space, Add</i>	240.67 28.63	63.51
22 66 53 00-0694		Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers (22 66 53 00-0635)		
22 66 53 00-0695	EA	2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers <i>For Work In Restricted Working Space, Add</i>	92.05 8.77	19.50
22 66 53 00-0696	EA	3" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers <i>For Work In Restricted Working Space, Add</i>	101.21 10.47	23.19



		Plumbing	22
Gas and Vacuum Systems for Laboratory and Healthcare Facilities		22 60	22
Chemical-Waste Systems for Laboratory and Healthcare Facilities		22 66	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0697	EA	3" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	171.12 11.54	25.66
22 66 53 00-0698	EA	4" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	187.83 12.62	28.01
22 66 53 00-0699	EA	4" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	206.76 14.31	31.81
22 66 53 00-0700	EA	6" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	283.48 16.62	36.94
22 66 53 00-0701	EA	6" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducers..... <i>For Work In Restricted Working Space, Add</i>	327.94 17.70	39.30
22 66 53 00-0702 Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushings (22 66 53 00-0635)				
22 66 53 00-0703	EA	2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing..... <i>For Work In Restricted Working Space, Add</i>	63.47 8.77	19.50
22 66 53 00-0704	EA	3" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing..... <i>For Work In Restricted Working Space, Add</i>	71.06 10.47	23.19
22 66 53 00-0705	EA	3" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing..... <i>For Work In Restricted Working Space, Add</i>	77.91 11.54	25.66
22 66 53 00-0706	EA	4" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing..... <i>For Work In Restricted Working Space, Add</i>	129.60 12.62	28.01
22 66 53 00-0707	EA	4" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing..... <i>For Work In Restricted Working Space, Add</i>	137.28 14.31	31.81
22 66 53 00-0708	EA	6" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing..... <i>For Work In Restricted Working Space, Add</i>	219.71 16.62	36.94
22 66 53 00-0709	EA	6" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing..... <i>For Work In Restricted Working Space, Add</i>	215.69 17.70	39.30
22 66 53 00-0710	EA	8" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing..... <i>For Work In Restricted Working Space, Add</i>	640.12 21.18	47.00
22 66 53 00-0711	EA	8" x 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Flush Bushing..... <i>For Work In Restricted Working Space, Add</i>	672.45 23.49	52.13
22 66 53 00-0712 Chlorinated Polyvinyl Chloride (CPVC) DWV P-Traps (22 66 53 00-0635)				
22 66 53 00-0713	EA	1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV P-Traps..... <i>For Work In Restricted Working Space, Add</i>	118.60 11.54	25.66
22 66 53 00-0714	EA	2" Chlorinated Polyvinyl Chloride (CPVC) DWV P-Traps..... <i>For Work In Restricted Working Space, Add</i>	161.06 14.78	32.83
22 66 53 00-0715	EA	3" Chlorinated Polyvinyl Chloride (CPVC) DWV P-Traps..... <i>For Work In Restricted Working Space, Add</i>	269.15 19.85	44.12
22 66 53 00-0716	EA	4" Chlorinated Polyvinyl Chloride (CPVC) DWV P-Traps..... <i>For Work In Restricted Working Space, Add</i>	437.72 23.09	51.30
22 66 53 00-0717 Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes (22 66 53 00-0635)				
22 66 53 00-0718	EA	1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	90.51 11.54	25.66
22 66 53 00-0719	EA	2" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	122.25 14.78	32.83
22 66 53 00-0720	EA	3" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	196.29 19.85	44.12
22 66 53 00-0721	EA	4" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	266.60 23.09	51.30
22 66 53 00-0722	EA	6" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	581.46 30.01	66.59
22 66 53 00-0723	EA	8" Chlorinated Polyvinyl Chloride (CPVC) DWV Wyes..... <i>For Work In Restricted Working Space, Add</i>	658.67 40.40	89.67
22 66 53 00-0724 Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes (22 66 53 00-0635)				
22 66 53 00-0725	EA	2" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	98.95 12.62	28.01
22 66 53 00-0726	EA	2" x 2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	118.66 13.70	30.37
22 66 53 00-0727	EA	3" x 3" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	168.96 17.08	37.97
22 66 53 00-0728	EA	3" x 3" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	181.81 18.16	40.33
22 66 53 00-0729	EA	4" x 4" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	184.52 19.24	42.68
22 66 53 00-0730	EA	4" x 4" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	242.27 20.32	45.14
22 66 53 00-0731	EA	4" x 4" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	255.40 22.01	48.84
22 66 53 00-0732	EA	6" x 6" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	404.96 27.70	61.46
22 66 53 00-0733	EA	8" x 8" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	479.60 34.63	76.85
22 66 53 00-0734	EA	8" x 8" x 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Wyes..... <i>For Work In Restricted Working Space, Add</i>	528.42 36.94	81.98
22 66 53 00-0735 Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes (22 66 53 00-0635)				

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0736 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	148.94 15.39	34.17
22 66 53 00-0737 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	168.89 19.70	43.71
22 66 53 00-0738 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	274.83 26.47	58.80
22 66 53 00-0739 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	528.27 30.78	68.34
22 66 53 00-0740 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	873.62 40.01	88.86
22 66 53 00-0741 Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Double Wyes (22 66 53 00-0635)		
22 66 53 00-0742 EA 2" x 2" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	213.37 17.54	38.99
22 66 53 00-0743 EA 3" x 3" x 2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	267.54 23.09	51.30
22 66 53 00-0744 EA 4" x 4" x 3" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	472.50 28.63	63.51
22 66 53 00-0745 EA 6" x 6" x 4" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Wyes..... <i>For Work In Restricted Working Space, Add</i>	707.24 35.40	78.60
22 66 53 00-0746 Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends (22 66 53 00-0635)		
22 66 53 00-0747 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	106.41 11.54	25.66
22 66 53 00-0748 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	139.90 14.78	32.83
22 66 53 00-0749 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	210.90 19.85	44.12
22 66 53 00-0750 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	282.51 23.09	51.30
22 66 53 00-0751 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	655.62 30.01	66.59
22 66 53 00-0752 EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	1,156.90 40.40	89.67
22 66 53 00-0753 Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Combination Wye And 1/8 Bends (22 66 53 00-0635)		
22 66 53 00-0754 EA 2" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	98.59 12.62	28.01
22 66 53 00-0755 EA 2" x 2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	127.28 13.70	30.37
22 66 53 00-0756 EA 3" x 3" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	177.33 17.08	37.97
22 66 53 00-0757 EA 3" x 3" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	190.94 18.16	40.33
22 66 53 00-0758 EA 4" x 4" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	248.29 20.32	45.14
22 66 53 00-0759 EA 4" x 4" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	262.81 22.01	48.84
22 66 53 00-0760 EA 6" x 6" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	509.29 26.63	59.10
22 66 53 00-0761 EA 6" x 6" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	529.06 27.70	61.46
22 66 53 00-0762 Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends (22 66 53 00-0635)		
22 66 53 00-0763 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	161.61 15.39	34.17
22 66 53 00-0764 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	244.88 19.70	43.71
22 66 53 00-0765 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	396.24 26.47	58.80
22 66 53 00-0766 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	686.26 30.78	68.34
22 66 53 00-0767 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	946.66 40.01	88.86
22 66 53 00-0768 Chlorinated Polyvinyl Chloride (CPVC) DWV Reducing Double Combination Wye And 1/8 Bends (22 66 53 00-0635)		
22 66 53 00-0769 EA 2" x 2" x 1-1/2" x 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	213.38 17.54	38.99
22 66 53 00-0770 EA 3" x 3" x 2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	335.17 23.09	51.30
22 66 53 00-0771 EA 4" x 4" x 2" x 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends..... <i>For Work In Restricted Working Space, Add</i>	407.49 25.24	56.03



	Plumbing	22	
	Gas and Vacuum Systems for Laboratory and Healthcare Facilities	22 60	22
	Chemical-Waste Systems for Laboratory and Healthcare Facilities	22 66	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0772 EA 4" x 4" x 3" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends For Work In Restricted Working Space, Add	418.78 28.63	63.51
22 66 53 00-0773 EA 6" x 6" x 3" x 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends For Work In Restricted Working Space, Add	533.13 33.24	73.77
22 66 53 00-0774 EA 6" x 6" x 4" x 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Double Combination Wye And 1/8 Bends For Work In Restricted Working Space, Add	599.94 35.40	78.60
22 66 53 00-0775 Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees With Plug (22 66 53 00-0635)		
22 66 53 00-0776 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees For Work In Restricted Working Space, Add	99.27 11.54	25.66
22 66 53 00-0777 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees For Work In Restricted Working Space, Add	116.41 14.78	32.83
22 66 53 00-0778 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees For Work In Restricted Working Space, Add	206.99 19.85	44.12
22 66 53 00-0779 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees For Work In Restricted Working Space, Add	268.72 23.09	51.30
22 66 53 00-0780 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Tees For Work In Restricted Working Space, Add	617.93 30.01	66.59
22 66 53 00-0781 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Plug For Work In Restricted Working Space, Add	22.02 3.85	8.51
22 66 53 00-0782 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Plug For Work In Restricted Working Space, Add	26.47 4.92	10.87
22 66 53 00-0783 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Plug For Work In Restricted Working Space, Add	39.62 6.62	14.67
22 66 53 00-0784 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Plug For Work In Restricted Working Space, Add	45.35 7.70	17.03
22 66 53 00-0785 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Plug For Work In Restricted Working Space, Add	79.28 10.00	22.16
22 66 53 00-0786 Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug (22 66 53 00-0635)		
22 66 53 00-0787 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	52.24 7.70	17.13
22 66 53 00-0788 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	64.17 9.85	21.86
22 66 53 00-0789 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	101.95 13.24	29.34
22 66 53 00-0790 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	150.77 15.39	34.17
22 66 53 00-0791 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	238.77 20.01	44.43
22 66 53 00-0792 EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV Cleanout Adapters With Plug For Work In Restricted Working Space, Add	432.32 26.96	59.82
22 66 53 00-0793 Chlorinated Polyvinyl Chloride (CPVC) Couplings (22 66 53 00-0635)		
22 66 53 00-0794 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	57.76 7.70	17.13
22 66 53 00-0795 EA 2" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	72.90 9.85	21.86
22 66 53 00-0796 EA 3" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	95.39 13.24	29.34
22 66 53 00-0797 EA 4" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	124.25 15.39	34.17
22 66 53 00-0798 EA 6" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	182.33 20.01	44.43
22 66 53 00-0799 EA 8" Chlorinated Polyvinyl Chloride (CPVC) Couplings For Work In Restricted Working Space, Add	401.70 26.96	59.82
22 66 53 00-0800 Chlorinated Polyvinyl Chloride (CPVC) Female Adapters (22 66 53 00-0635)		
22 66 53 00-0801 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) Female Adapters 22 66 53 00-0802 EA 2" Chlorinated Polyvinyl Chloride (CPVC) Female Adapters 22 66 53 00-0803 EA 3" Chlorinated Polyvinyl Chloride (CPVC) Female Adapters 22 66 53 00-0804 EA 4" Chlorinated Polyvinyl Chloride (CPVC) Female Adapters 22 66 53 00-0805 EA 6" Chlorinated Polyvinyl Chloride (CPVC) Female Adapters	38.08 50.81 78.82 134.78 216.13	8.51 10.98 14.67 17.13 22.16
22 66 53 00-0806 Chlorinated Polyvinyl Chloride (CPVC) Male Adapters (22 66 53 00-0635)		
22 66 53 00-0807 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) Male Adapters 22 66 53 00-0808 EA 2" Chlorinated Polyvinyl Chloride (CPVC) Male Adapters 22 66 53 00-0809 EA 3" Chlorinated Polyvinyl Chloride (CPVC) Male Adapters 22 66 53 00-0810 EA 4" Chlorinated Polyvinyl Chloride (CPVC) Male Adapters 22 66 53 00-0811 EA 6" Chlorinated Polyvinyl Chloride (CPVC) Male Adapters	43.07 61.80 71.76 129.28 173.20	8.51 10.98 14.67 17.13 22.16
22 66 53 00-0812 Chlorinated Polyvinyl Chloride (CPVC) Caps (22 66 53 00-0635)		
22 66 53 00-0813 EA 1-1/2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap 22 66 53 00-0814 EA 2" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap 22 66 53 00-0815 EA 3" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap	37.79 46.28 73.68	8.51 10.98 14.67

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 66 53 00-0816 EA 4" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap.....	130.90	17.13
22 66 53 00-0817 EA 6" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap.....	166.70	22.16
22 66 53 00-0818 EA 8" Chlorinated Polyvinyl Chloride (CPVC) DWV Cap.....	264.86	29.96
22 66 83 Chemical-Waste Tanks (22 66)		
22 66 83 16 Chemical-Waste Neutralization Tanks (22 66 83)		
22 66 83 16-0001 Acid Neutralization Tank (22 66 83 16)		
22 66 83 16-0002 Polyethylene Acid Neutralization Tank (22 66 83 16-0001)		
22 66 83 16-0003 EA 5 Gallon Capacity Polyethylene Acid Neutralization Tank	550.85	208.91
22 66 83 16-0004 EA 15 Gallon Capacity Polyethylene Acid Neutralization Tank	1,013.94	289.69
22 66 83 16-0005 EA 30 Gallon Capacity Polyethylene Acid Neutralization Tank	1,251.43	417.82
22 66 83 16-0006 EA 55 Gallon Capacity Polyethylene Acid Neutralization Tank	1,603.17	557.09
22 66 83 16-0007 EA 100 Gallon Capacity Polyethylene Acid Neutralization Tank	2,066.72	668.51
22 66 83 16-0008 EA 150 Gallon Capacity Polyethylene Acid Neutralization Tank	2,840.93	835.64
22 66 83 16-0009 EA 200 Gallon Capacity Polyethylene Acid Neutralization Tank	3,264.71	1,044.55
22 66 83 16-0010 EA 275 Gallon Capacity Polyethylene Acid Neutralization Tank	4,257.99	1,253.46
22 66 83 16-0011 EA 350 Gallon Capacity Polyethylene Acid Neutralization Tank	4,819.16	1,504.15
22 66 83 16-0012 Polypropylene Acid Neutralization Tank (22 66 83 16-0001)		
22 66 83 16-0013 EA 5 Gallon Capacity Polypropylene Acid Neutralization Tank	932.04	208.91
22 66 83 16-0014 EA 15 Gallon Capacity Polypropylene Acid Neutralization Tank	1,617.51	289.69
22 66 83 16-0015 EA 30 Gallon Capacity Polypropylene Acid Neutralization Tank	2,615.56	417.82
22 66 83 16-0016 EA 55 Gallon Capacity Polypropylene Acid Neutralization Tank	3,446.19	557.09
22 66 83 16-0017 EA 100 Gallon Capacity Polypropylene Acid Neutralization Tank	4,367.14	668.51
22 66 83 16-0018 EA 150 Gallon Capacity Polypropylene Acid Neutralization Tank	4,896.68	835.64
22 66 83 16-0019 EA 200 Gallon Capacity Polypropylene Acid Neutralization Tank	5,311.39	1,044.55
22 66 83 16-0020 EA 275 Gallon Capacity Polypropylene Acid Neutralization Tank	7,831.76	1,253.46
22 66 83 16-0021 EA 350 Gallon Capacity Polypropylene Acid Neutralization Tank	8,440.56	1,504.15
22 66 83 16-0022 Chemical Dilution Trap (22 66 83 16)		
22 66 83 16-0023 EA 1 Gallon Capacity Polyethylene Under Bench Chemical Dilution Trap	511.95	69.64
Note: 1-1/2" top inlet and side outlet with anti siphon.		
22 66 83 16-0024 EA 1-1/2 Gallon Capacity Polyethylene Under Bench Chemical Dilution Trap	528.92	69.64
Note: 1-1/2" top inlet and side outlet with anti siphon.		
22 66 83 16-0025 EA 2 Gallon Capacity Polyethylene Under Bench Chemical Dilution Trap	545.88	69.64
Note: 1-1/2" top inlet and side outlet with anti siphon.		
22 66 83 16-0026 EA 5 Gallon Capacity Polyethylene Under Bench Chemical Dilution Trap	596.19	83.56
Note: 1-1/2" top inlet and side outlet with anti siphon.		
22 67 Processed Water Systems for Laboratory and Healthcare Facilities (22 60)		
22 67 13 Processed Water Piping for Laboratory and Healthcare Facilities (22 67)		
22 67 13 53 Laboratory Water Piping (22 67 13)		
22 67 13 53-0001 Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe And Fittings (22 67 13 53)		
22 67 13 53-0002 Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe (22 67 13 53-0001)		
22 67 13 53-0003 LF 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe	7.13	2.97
For Work In Restricted Working Space, Add	1.32	
22 67 13 53-0004 LF 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe	8.96	3.70
For Work In Restricted Working Space, Add	1.65	
22 67 13 53-0005 LF 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe	10.85	3.90
For Work In Restricted Working Space, Add	1.76	
22 67 13 53-0006 LF 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe	15.61	4.31
For Work In Restricted Working Space, Add	1.92	
22 67 13 53-0007 LF 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Pipe	20.46	5.13
For Work In Restricted Working Space, Add	2.31	
22 67 13 53-0008 Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbows (22 67 13 53-0001)		
22 67 13 53-0009 EA 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbow	26.86	10.98
For Work In Restricted Working Space, Add	4.97	
22 67 13 53-0010 EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbow	34.06	14.67
For Work In Restricted Working Space, Add	6.62	
22 67 13 53-0011 EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbow	41.30	18.26
For Work In Restricted Working Space, Add	8.21	
22 67 13 53-0012 EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbow	65.68	29.14
For Work In Restricted Working Space, Add	13.10	
22 67 13 53-0013 EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 90 Degree Elbow	81.94	37.04
For Work In Restricted Working Space, Add	16.64	



Plumbing			22
Gas and Vacuum Systems for Laboratory and Healthcare Facilities			22 60
Processed Water Systems for Laboratory and Healthcare Facilities			22 67

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 67 13 53-0014			Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbows (22 67 13 53-0001)		
22 67 13 53-0015	EA		1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbow.....	26.86	11.08
			For Work In Restricted Working Space, Add	4.97	
22 67 13 53-0016	EA		3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbow.....	34.06	14.67
			For Work In Restricted Working Space, Add	6.62	
22 67 13 53-0017	EA		1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbow	41.30	18.26
			For Work In Restricted Working Space, Add	8.21	
22 67 13 53-0018	EA		1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbow	65.93	29.14
			For Work In Restricted Working Space, Add	13.10	
22 67 13 53-0019	EA		2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 45 Degree Elbow	81.94	37.04
			For Work In Restricted Working Space, Add	16.64	
22 67 13 53-0020			Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tees (22 67 13 53-0001)		
22 67 13 53-0021	EA		1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tee.....	39.35	18.26
			For Work In Restricted Working Space, Add	8.21	
22 67 13 53-0022	EA		3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tee.....	47.04	22.06
			For Work In Restricted Working Space, Add	9.93	
22 67 13 53-0023	EA		1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tee.....	59.69	29.14
			For Work In Restricted Working Space, Add	13.10	
22 67 13 53-0024	EA		1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tee.....	95.46	44.12
			For Work In Restricted Working Space, Add	19.86	
22 67 13 53-0025	EA		2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Tee.....	121.66	54.79
			For Work In Restricted Working Space, Add	24.62	
22 67 13 53-0026			Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tees (22 67 13 53-0001)		
22 67 13 53-0027	EA		3/4" x 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tee.....	70.91	20.52
			For Work In Restricted Working Space, Add	9.23	
22 67 13 53-0028	EA		1" x 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tee.....	83.28	23.91
			For Work In Restricted Working Space, Add	10.77	
22 67 13 53-0029	EA		1" x 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tee.....	88.33	25.96
			For Work In Restricted Working Space, Add	11.70	
22 67 13 53-0030	EA		1-1/2" x 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tee.....	114.78	36.94
			For Work In Restricted Working Space, Add	16.62	
22 67 13 53-0031	EA		2" x 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Tee.....	142.73	49.25
			For Work In Restricted Working Space, Add	22.16	
22 67 13 53-0032			Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Inserts (22 67 13 53-0001)		
22 67 13 53-0033	EA		3/4" x 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert.....	34.68	13.03
			For Work In Restricted Working Space, Add	5.85	
22 67 13 53-0034	EA		1" x 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert.....	40.97	15.08
			For Work In Restricted Working Space, Add	6.77	
22 67 13 53-0035	EA		1" x 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert.....	46.55	17.13
			For Work In Restricted Working Space, Add	7.70	
22 67 13 53-0036	EA		1-1/2" x 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert.....	60.88	20.52
			For Work In Restricted Working Space, Add	9.23	
22 67 13 53-0037	EA		1-1/2" x 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert.....	65.36	22.57
			For Work In Restricted Working Space, Add	10.16	
22 67 13 53-0038	EA		1-1/2" x 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert.....	68.24	23.91
			For Work In Restricted Working Space, Add	10.77	
22 67 13 53-0039	EA		2" x 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Reducing Insert.....	100.45	33.56
			For Work In Restricted Working Space, Add	15.08	
22 67 13 53-0040			Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapters (22 67 13 53-0001)		
22 67 13 53-0041	EA		1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapter.....	29.79	11.08
			For Work In Restricted Working Space, Add	4.97	
22 67 13 53-0042	EA		3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapter.....	38.10	14.67
			For Work In Restricted Working Space, Add	6.62	
22 67 13 53-0043	EA		1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapter.....	45.76	18.26
			For Work In Restricted Working Space, Add	8.21	
22 67 13 53-0044	EA		1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapter	68.75	29.14
			For Work In Restricted Working Space, Add	13.10	
22 67 13 53-0045	EA		2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Male Thread Adapter.....	89.42	36.94
			For Work In Restricted Working Space, Add	16.62	
22 67 13 53-0046			Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapters (22 67 13 53-0001)		
22 67 13 53-0047	EA		1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapter	29.79	11.08
			For Work In Restricted Working Space, Add	4.97	

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 67 Processed Water Systems for Laboratory and Healthcare Facilities**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 67 13 53-0048 EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapter..... <i>For Work In Restricted Working Space, Add</i>	38.10 6.62	14.67
22 67 13 53-0049 EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapter..... <i>For Work In Restricted Working Space, Add</i>	45.76 8.21	18.26
22 67 13 53-0050 EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapter <i>For Work In Restricted Working Space, Add</i>	68.75 13.10	29.14
22 67 13 53-0051 EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion x Female Thread Adapter..... <i>For Work In Restricted Working Space, Add</i>	88.91 16.64	37.04
22 67 13 53-0052 Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Couplings (22 67 13 53-0001)		
22 67 13 53-0053 EA 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Coupling <i>For Work In Restricted Working Space, Add</i>	22.96 4.97	11.08
22 67 13 53-0054 EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Coupling <i>For Work In Restricted Working Space, Add</i>	30.85 6.62	14.67
22 67 13 53-0055 EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Coupling <i>For Work In Restricted Working Space, Add</i>	38.79 8.21	18.26
22 67 13 53-0056 EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Coupling <i>For Work In Restricted Working Space, Add</i>	61.22 13.10	29.14
22 67 13 53-0057 EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Coupling <i>For Work In Restricted Working Space, Add</i>	79.99 16.64	37.04
22 67 13 53-0058 Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Unions (22 67 13 53-0001)		
22 67 13 53-0059 EA 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Union <i>For Work In Restricted Working Space, Add</i>	71.26 8.21	18.26
22 67 13 53-0060 EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Union <i>For Work In Restricted Working Space, Add</i>	79.79 9.93	22.06
22 67 13 53-0061 EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Union <i>For Work In Restricted Working Space, Add</i>	95.78 13.10	29.14
22 67 13 53-0062 EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Union <i>For Work In Restricted Working Space, Add</i>	160.68 19.86	44.12
22 67 13 53-0063 EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Union <i>For Work In Restricted Working Space, Add</i>	217.54 24.62	54.79
22 67 13 53-0064 Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Caps (22 67 13 53-0001)		
22 67 13 53-0065 EA 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	25.71 5.04	11.25
22 67 13 53-0066 EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	32.38 6.62	14.67
22 67 13 53-0067 EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	38.79 8.21	18.26
22 67 13 53-0068 EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	61.50 13.10	29.14
22 67 13 53-0069 EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	79.99 16.64	37.04
22 67 13 53-0070 Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flanges (22 67 13 53-0001)		
22 67 13 53-0071 EA 1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flange <i>For Work In Restricted Working Space, Add</i>	44.08 8.21	18.47
22 67 13 53-0072 EA 3/4" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flange <i>For Work In Restricted Working Space, Add</i>	51.91 9.93	21.86
22 67 13 53-0073 EA 1" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flange <i>For Work In Restricted Working Space, Add</i>	65.62 13.10	29.44
22 67 13 53-0074 EA 1-1/2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flange <i>For Work In Restricted Working Space, Add</i>	99.36 19.86	44.53
22 67 13 53-0075 EA 2" Schedule 80 Standardline Polypropylene Copolymer Socket Fusion 150 LB Flange <i>For Work In Restricted Working Space, Add</i>	120.54 24.62	54.79
22 67 13 53-0076 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe And Fittings (22 67 13 53)		
22 67 13 53-0077 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe (22 67 13 53-0076)		
22 67 13 53-0078 LF 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe <i>For Work In Restricted Working Space, Add</i>	13.63 1.32	2.97
22 67 13 53-0079 LF 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe <i>For Work In Restricted Working Space, Add</i>	17.42 1.65	3.70
22 67 13 53-0080 LF 1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe <i>For Work In Restricted Working Space, Add</i>	22.61 1.76	3.90
22 67 13 53-0081 LF 1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe <i>For Work In Restricted Working Space, Add</i>	28.56 1.92	4.31
22 67 13 53-0082 LF 2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Pipe <i>For Work In Restricted Working Space, Add</i>	39.11 2.31	5.13



		Plumbing	22
Gas and Vacuum Systems for Laboratory and Healthcare Facilities		22 60	22
Processed Water Systems for Laboratory and Healthcare Facilities		22 67	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 67 13 53-0083		Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbows (22 67 13 53-0076)		
22 67 13 53-0084	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbow	47.32	10.98
		For Work In Restricted Working Space, Add	4.97	
22 67 13 53-0085	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbow	60.72	14.67
		For Work In Restricted Working Space, Add	6.62	
22 67 13 53-0086	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbow	75.67	18.26
		For Work In Restricted Working Space, Add	8.21	
22 67 13 53-0087	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbow	109.15	29.14
		For Work In Restricted Working Space, Add	13.10	
22 67 13 53-0088	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 90 Degree Elbow	144.21	37.04
		For Work In Restricted Working Space, Add	16.64	
22 67 13 53-0089		Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbows (22 67 13 53-0076)		
22 67 13 53-0090	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbow	46.97	11.08
		For Work In Restricted Working Space, Add	4.97	
22 67 13 53-0091	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbow	60.90	14.67
		For Work In Restricted Working Space, Add	6.62	
22 67 13 53-0092	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbow	75.85	18.26
		For Work In Restricted Working Space, Add	8.21	
22 67 13 53-0093	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbow	111.65	29.14
		For Work In Restricted Working Space, Add	13.10	
22 67 13 53-0094	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 45 Degree Elbow	144.21	37.04
		For Work In Restricted Working Space, Add	16.64	
22 67 13 53-0095		Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tees (22 67 13 53-0076)		
22 67 13 53-0096	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tee	64.04	18.26
		For Work In Restricted Working Space, Add	8.21	
22 67 13 53-0097	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tee	76.40	22.06
		For Work In Restricted Working Space, Add	9.93	
22 67 13 53-0098	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tee	94.65	29.14
		For Work In Restricted Working Space, Add	13.10	
22 67 13 53-0099	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tee	142.77	44.12
		For Work In Restricted Working Space, Add	19.86	
22 67 13 53-0100	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Tee	183.71	54.79
		For Work In Restricted Working Space, Add	24.62	
22 67 13 53-0101		Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tees (22 67 13 53-0076)		
22 67 13 53-0102	EA	3/4" x 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tee	75.86	20.52
		For Work In Restricted Working Space, Add	9.23	
22 67 13 53-0103	EA	1" x 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tee	93.87	23.91
		For Work In Restricted Working Space, Add	10.77	
22 67 13 53-0104	EA	1" x 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tee	96.96	25.96
		For Work In Restricted Working Space, Add	11.70	
22 67 13 53-0105	EA	1-1/2" x 1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tee	138.79	36.94
		For Work In Restricted Working Space, Add	16.62	
22 67 13 53-0106	EA	2" x 1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Tee	178.55	49.25
		For Work In Restricted Working Space, Add	22.16	
22 67 13 53-0107		Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Inserts (22 67 13 53-0076)		
22 67 13 53-0108	EA	3/4" x 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert	54.38	13.03
		For Work In Restricted Working Space, Add	5.85	
22 67 13 53-0109	EA	1" x 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert	61.58	15.08
		For Work In Restricted Working Space, Add	6.77	
22 67 13 53-0110	EA	1" x 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert	64.66	17.13
		For Work In Restricted Working Space, Add	7.70	
22 67 13 53-0111	EA	1-1/2" x 1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert	84.82	20.52
		For Work In Restricted Working Space, Add	9.23	
22 67 13 53-0112	EA	1-1/2" x 3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert	87.90	22.57
		For Work In Restricted Working Space, Add	10.16	
22 67 13 53-0113	EA	1-1/2" x 1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert	89.95	23.91
		For Work In Restricted Working Space, Add	10.77	
22 67 13 53-0114	EA	2" x 1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Reducing Insert	125.43	33.56
		For Work In Restricted Working Space, Add	15.08	
22 67 13 53-0115		Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapters (22 67 13 53-0076)		
22 67 13 53-0116	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapter	47.32	11.08
		For Work In Restricted Working Space, Add	4.97	
22 67 13 53-0117	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapter	59.64	14.67
		For Work In Restricted Working Space, Add	6.62	

22 Plumbing**22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities****22 67 Processed Water Systems for Laboratory and Healthcare Facilities**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
22 67 13 53-0118	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapter <i>For Work In Restricted Working Space, Add</i>	70.12 8.21	18.26
22 67 13 53-0119	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapter <i>For Work In Restricted Working Space, Add</i>	95.55 13.10	29.14
22 67 13 53-0120	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Male Thread Adapter <i>For Work In Restricted Working Space, Add</i>	136.28 16.62	36.94
22 67 13 53-0121 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapters (22 67 13 53-0076)				
22 67 13 53-0122	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapter <i>For Work In Restricted Working Space, Add</i>	47.32 4.97	11.08
22 67 13 53-0123	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapter <i>For Work In Restricted Working Space, Add</i>	59.64 6.62	14.67
22 67 13 53-0124	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapter <i>For Work In Restricted Working Space, Add</i>	70.12 8.21	18.26
22 67 13 53-0125	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapter <i>For Work In Restricted Working Space, Add</i>	95.55 13.10	29.14
22 67 13 53-0126	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion x Female Thread Adapter <i>For Work In Restricted Working Space, Add</i>	136.33 16.64	37.04
22 67 13 53-0127 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Couplings (22 67 13 53-0076)				
22 67 13 53-0128	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Coupling <i>For Work In Restricted Working Space, Add</i>	44.28 4.97	11.08
22 67 13 53-0129	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Coupling <i>For Work In Restricted Working Space, Add</i>	56.07 6.62	14.67
22 67 13 53-0130	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Coupling <i>For Work In Restricted Working Space, Add</i>	66.19 8.21	18.26
22 67 13 53-0131	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Coupling <i>For Work In Restricted Working Space, Add</i>	94.83 13.10	29.14
22 67 13 53-0132	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Coupling <i>For Work In Restricted Working Space, Add</i>	122.38 16.64	37.04
22 67 13 53-0133 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Unions (22 67 13 53-0076)				
22 67 13 53-0134	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Union <i>For Work In Restricted Working Space, Add</i>	150.82 8.21	
22 67 13 53-0135	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Union <i>For Work In Restricted Working Space, Add</i>	174.45 9.93	22.06
22 67 13 53-0136	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Union <i>For Work In Restricted Working Space, Add</i>	210.77 13.10	29.14
22 67 13 53-0137	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Union <i>For Work In Restricted Working Space, Add</i>	347.10 19.86	44.12
22 67 13 53-0138	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Union <i>For Work In Restricted Working Space, Add</i>	452.45 24.62	54.79
22 67 13 53-0139 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Caps (22 67 13 53-0076)				
22 67 13 53-0140	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	44.52 5.04	11.25
22 67 13 53-0141	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	56.07 6.62	14.67
22 67 13 53-0142	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	66.01 8.21	18.26
22 67 13 53-0143	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	95.19 13.10	29.14
22 67 13 53-0144	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion Cap <i>For Work In Restricted Working Space, Add</i>	122.38 16.64	37.04
22 67 13 53-0145 Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB Flanges (22 67 13 53-0076)				
22 67 13 53-0146	EA	1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB Flange <i>For Work In Restricted Working Space, Add</i>	86.76 8.21	18.47
22 67 13 53-0147	EA	3/4" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB Flange <i>For Work In Restricted Working Space, Add</i>	99.66 9.93	21.86
22 67 13 53-0148	EA	1" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB Flange <i>For Work In Restricted Working Space, Add</i>	119.88 13.10	29.44
22 67 13 53-0149	EA	1-1/2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB Flange <i>For Work In Restricted Working Space, Add</i>	172.11 19.86	44.53
22 67 13 53-0150	EA	2" Schedule 80 Whiteline Polypropylene Homopolymer Socket Fusion 150 LB Flange <i>For Work In Restricted Working Space, Add</i>	214.48 24.62	54.79



Plumbing		22	22
Gas and Vacuum Systems for Laboratory and Healthcare Facilities		22 60	
Processed Water Systems for Laboratory and Healthcare Facilities		22 67	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

END OF SECTION 22

NOT FOR BID

22	22	Plumbing
	22 60	Gas and Vacuum Systems for Laboratory and Healthcare Facilities
	22 67	Processed Water Systems for Laboratory and Healthcare Facilities



MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST

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NOT FOR BID

MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST**23 Heating, Ventilating, and Air-Conditioning (HVAC)**

Note: Where required, mechanical equipment excludes electrical connection unless title states otherwise. HVAC equipment shall conform to California Title 24.

23 01 Operation and Maintenance of HVAC Systems ⁽²³⁾**23 01 10 Operation and Maintenance of Facility Fuel Systems** ^(23 01)**23 01 10 91 Facility Fuel Systems Restoration** ^(23 01 10)**23 01 10 91-0001 Professional Certification For Hospital** ^(23 01 10 91)

23 01 10 91-0002 HR Hospital/Lab Certification - Oxygen, Air, Water Lines, Medical Gases, Nitrogen And Vacuum 179.78

23 01 10 91-0003 Purge Gas Systems ^(23 01 10 91)

Note: Includes collection and refilling/bleeding of system. For natural gas, flammable gases and other gases that should not be released inside the building. See CSI section 23 01 60 71-0001 for refrigerant.

23 01 10 91-0004 EA Up To 100', Up To 1-1/2" Diameter Pipe, Purge Gas Systems..... 514.81
23 01 10 91-0005 EA >100' To 250', Up To 1-1/2" Diameter Pipe, Purge Gas Systems..... 735.49
23 01 10 91-0006 EA >250' To 500', Up To 1-1/2" Diameter Pipe, Purge Gas Systems..... 772.76
23 01 10 91-0007 EA >500' To 1,000', Up To 1-1/2" Diameter Pipe, Purge Gas Systems..... 852.91
23 01 10 91-0008 EA >1,000' To 2,000', Up To 1-1/2" Diameter Pipe, Purge Gas Systems..... 1,545.01
23 01 10 91-0009 EA Up To 100', >1-1/2" To 4" Diameter Pipe, Purge Gas Systems..... 692.85
23 01 10 91-0010 EA >100' To 250', >1-1/2" To 4" Diameter Pipe, Purge Gas Systems..... 996.57
23 01 10 91-0011 EA >250' To 500', >1-1/2" To 4" Diameter Pipe, Purge Gas Systems..... 1,057.36
23 01 10 91-0012 EA >500' To 1,000', >1-1/2" To 4" Diameter Pipe, Purge Gas Systems..... 1,392.48
23 01 10 91-0013 EA >1,000' To 2,000', >1-1/2" To 4" Diameter Pipe, Purge Gas Systems..... 2,159.90
23 01 10 91-0014 EA Up To 100', >4" To 10" Diameter Pipe, Purge Gas Systems..... 825.85
23 01 10 91-0015 EA >100' To 250', >4" To 10" Diameter Pipe, Purge Gas Systems..... 1,221.74
23 01 10 91-0016 EA >250' To 500', >4" To 10" Diameter Pipe, Purge Gas Systems..... 2,810.79
23 01 10 91-0017 EA >500' To 1,000', >4" To 10" Diameter Pipe, Purge Gas Systems..... 4,403.57
23 01 10 91-0018 EA >1,000' To 2,000', >4" To 10" Diameter Pipe, Purge Gas Systems..... 8,282.87

23 01 20 Operation and Maintenance of HVAC Piping and Pumps ^(23 01)**23 01 20 91 HVAC Piping and Pumps Restoration** ^(23 01 20)**23 01 20 91-0001 Lock Out/Tag Out System** ^(23 01 20 91)

23 01 20 91-0002 EA Up To 1", Lock Out/Tag Out Valve..... 27.86
Note: Excludes tag or padlock See CSI section 23 01 20 91-0007 for padlock, 23 01 20 91-0008 for tag(s).
23 01 20 91-0003 EA >1" To 3", Lock Out/Tag Out Valve..... 33.43
Note: Excludes tag or padlock See CSI section 23 01 20 91-0007 for padlock, 23 01 20 91-0008 for tag(s).
23 01 20 91-0004 EA >3" To 6", Lock Out/Tag Out Valve..... 39.00
Note: Excludes tag or padlock See CSI section 23 01 20 91-0007 for padlock, 23 01 20 91-0008 for tag(s).
23 01 20 91-0005 EA >6" To 10", Lock Out/Tag Out Valve..... 44.57
Note: Excludes tag or padlock See CSI section 23 01 20 91-0007 for padlock, 23 01 20 91-0008 for tag(s).
23 01 20 91-0006 EA >10" To 14", Lock Out/Tag Out Valve..... 55.71
Note: Excludes tag or padlock See CSI section 23 01 20 91-0007 for padlock, 23 01 20 91-0008 for tag(s).
23 01 20 91-0007 EA Lock Out Padlock..... 11.14
23 01 20 91-0008 EA Lock Out Tags 4.86

23 01 20 91-0009 Freeze Pipe Using CO2 Kit ^(23 01 20 91)

Note: For use on chilled water or cold water piping systems. Excludes cutting existing pipe, and installation of valve or fittings.

23 01 20 91-0010 EA Up To 2" Freeze Pipe Using CO2 Kit..... 363.28

23 01 20 91-0011 Pipe Freezing ^(23 01 20 91)

Note: For use on any water piping systems. Excludes excavation, cutting existing pipe, and installation of valve or fittings.

23 01 20 91-0012 EA Up To 1" Pipe Freezing, First Location 675.17
Note: Includes freezing on each side of valve or fitting.
23 01 20 91-0013 EA Up To 1" Pipe Freezing, Each Additional Location After First 349.00
Note: Includes freezing on each side of valve or fitting.
23 01 20 91-0014 EA >1" To 1-1/2" Pipe Freezing, First Location 817.21
Note: Includes freezing on each side of valve or fitting.
23 01 20 91-0015 EA >1" To 1-1/2" Pipe Freezing, Each Additional Location After First 402.32
Note: Includes freezing on each side of valve or fitting.
23 01 20 91-0016 EA >1-1/2" To 2" Pipe Freezing, First Location 1,128.43
Note: Includes freezing on each side of valve or fitting.
23 01 20 91-0017 EA >1-1/2" To 2" Pipe Freezing, Each Additional Location After First 455.81
Note: Includes freezing on each side of valve or fitting.
23 01 20 91-0018 EA >2" To 3" Pipe Freezing, First Location 1,287.38
Note: Includes freezing on each side of valve or fitting.
23 01 20 91-0019 EA >2" To 3" Pipe Freezing, Each Additional Location After First 537.86
Note: Includes freezing on each side of valve or fitting.
23 01 20 91-0020 EA >3" To 4" Pipe Freezing, First Location 1,891.35
Note: Includes freezing on each side of valve or fitting.

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 01 Operation and Maintenance of HVAC Systems****23 01 20 Operation and Maintenance of HVAC Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 01 20 91-0021	EA	>3" To 4" Pipe Freezing, Each Additional Location After First Note: Includes freezing on each side of valve or fitting.	620.47	
23 01 20 91-0022	EA	>4" To 6" Pipe Freezing, First Location Note: Includes freezing on each side of valve or fitting.	3,919.14	
23 01 20 91-0023	EA	>4" To 6" Pipe Freezing, Each Additional Location After First Note: Includes freezing on each side of valve or fitting.	821.37	
23 01 20 91-0024	EA	>6" To 8" Pipe Freezing, First Location Note: Includes freezing on each side of valve or fitting.	5,213.71	
23 01 20 91-0025	EA	>6" To 8" Pipe Freezing, Each Additional Location After First Note: Includes freezing on each side of valve or fitting.	1,212.63	
23 01 20 91-0026	EA	>8" To 10" Pipe Freezing, First Location Note: Includes freezing on each side of valve or fitting.	7,197.94	
23 01 20 91-0027	EA	>8" To 10" Pipe Freezing, Each Additional Location After First Note: Includes freezing on each side of valve or fitting.	1,658.96	
23 01 20 91-0028	EA	>10" To 12" Pipe Freezing, First Location Note: Includes freezing on each side of valve or fitting.	9,270.55	
23 01 20 91-0029	EA	>10" To 12" Pipe Freezing, Each Additional Location After First Note: Includes freezing on each side of valve or fitting.	2,159.87	
23 01 20 91-0030 Water/Chlorine Pipe Disinfection/Flush/Testing (23 01 20 91)				
Note: For existing piping when required. Water/chlorine solution per specification entitled "Water Distribution".				
23 01 20 91-0031	LF	Up To 1", Water/Chlorine Pipe Disinfection/Flush/Testing For >250 To 500, Deduct For >500 To 2000, Deduct For >2000, Deduct	1.89 -0.14 -0.35 -0.50	
23 01 20 91-0032	LF	>1" To 2", Water/Chlorine Pipe Disinfection/Flush/Testing For >250 To 500, Deduct For >500 To 2000, Deduct For >2000, Deduct	2.61 -0.19 -0.46 -0.67	
23 01 20 91-0033	LF	>2" To 3", Water/Chlorine Pipe Disinfection/Flush/Testing For >250 To 500, Deduct For >500 To 2000, Deduct For >2000, Deduct	4.06 -0.28 -0.70 -1.01	
23 01 20 91-0034	LF	4", Water/Chlorine Pipe Disinfection/Flush/Testing For >250 To 500, Deduct For >500 To 2000, Deduct For >2000, Deduct	5.66 -0.37 -0.93 -1.35	
23 01 20 91-0035	LF	6", Water/Chlorine Pipe Disinfection/Flush/Testing For >250 To 500, Deduct For >500 To 2000, Deduct For >2000, Deduct	7.03 -0.45 -1.11 -1.62	
23 01 20 91-0036	LF	8", Water/Chlorine Pipe Disinfection/Flush/Testing For >250 To 500, Deduct For >500 To 2000, Deduct For >2000, Deduct	8.92 -0.56 -1.39 -2.02	
23 01 20 91-0037	LF	10", Water/Chlorine Pipe Disinfection/Flush/Testing For >250 To 500, Deduct For >500 To 2000, Deduct For >2000, Deduct	11.71 -0.74 -1.86 -2.69	
23 01 20 91-0038	LF	12", Water/Chlorine Pipe Disinfection/Flush/Testing For >250 To 500, Deduct For >500 To 2000, Deduct For >2000, Deduct	14.05 -0.89 -2.23 -3.23	
23 01 20 91-0039 Shut Down Existing Piping System (23 01 20 91)				
23 01 20 91-0040	EA	Shut Down Existing Interior Piping System Note: Includes lock out/tag out and average line tracing. Use when valves are greater than 25' from work. When the shut-off valves for multiple lines are located with a 10' radius, the quantity used shall be one.	235.22	
23 01 20 91-0041 Purge Liquid Systems (23 01 20 91)				
Note: Includes collection of liquid, refilling with liquid and bleeding of air from system.				
23 01 20 91-0042	EA	Up To 50', Up To 3/4" Diameter Pipe, Purge Liquid System 23 01 20 91-0043 EA >50' To 100', Up To 3/4" Diameter Pipe, Purge Liquid System 23 01 20 91-0044 EA >100 To 250', Up To 3/4" Diameter Pipe, Purge Liquid System 23 01 20 91-0045 EA >250 To 500', Up To 3/4" Diameter Pipe, Purge Liquid System 23 01 20 91-0046 EA >500 To 1,000', Up To 3/4" Diameter Pipe, Purge Liquid System 23 01 20 91-0047 EA >1,000 To 2,000', Up To 3/4" Diameter Pipe, Purge Liquid System 23 01 20 91-0048 LF >2,000', Up To 3/4" Diameter Pipe, Purge Liquid System 23 01 20 91-0049 EA Up To 100', >3/4" To 1-1/2" Diameter Pipe, Purge Liquid System 23 01 20 91-0050 EA >100 To 250', >3/4" To 1-1/2" Diameter Pipe, Purge Liquid System 23 01 20 91-0051 EA >250 To 500', >3/4" To 1-1/2" Diameter Pipe, Purge Liquid System 23 01 20 91-0052 EA >500 To 1,000', >3/4" To 1-1/2" Diameter Pipe, Purge Liquid System 23 01 20 91-0053 EA >1,000 To 2,000', >3/4" To 1-1/2" Diameter Pipe, Purge Liquid System 23 01 20 91-0054 LF >2,000', >3/4" To 1-1/2" Diameter Pipe, Purge Liquid System 23 01 20 91-0055 EA Up To 100', >1-1/2" To 3" Diameter Pipe, Purge Liquid System 23 01 20 91-0056 EA >100 To 250', >1-1/2" To 3" Diameter Pipe, Purge Liquid System 23 01 20 91-0057 EA >250 To 500', >1-1/2" To 3" Diameter Pipe, Purge Liquid System 23 01 20 91-0058 EA >500 To 1,000', >1-1/2" To 3" Diameter Pipe, Purge Liquid System 23 01 20 91-0059 EA >1,000 To 2,000', >1-1/2" To 3" Diameter Pipe, Purge Liquid System 23 01 20 91-0060 LF >2,000', >1-1/2" To 3" Diameter Pipe, Purge Liquid System 23 01 20 91-0061 EA Up To 100', >3" To 6" Diameter Pipe, Purge Liquid System	176.12 220.15 314.22 376.53 470.66 611.86 0.30 366.76 523.80 627.62 784.52 1,019.88 0.51 513.46 733.33 878.67 1,098.33 1,427.83 0.72 706.01	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 01 20 91-0062	EA		>100 To 250', >3" To 6" Diameter Pipe, Purge Liquid System	1,008.33	
23 01 20 91-0063	EA		>250 To 500', >3" To 6" Diameter Pipe, Purge Liquid System	1,070.49	
23 01 20 91-0064	EA		>500 To 1,000', >3" To 6" Diameter Pipe, Purge Liquid System	1,338.11	
23 01 20 91-0065	EA		>1,000 To 2,000', >3" To 6" Diameter Pipe, Purge Liquid System	1,739.53	
23 01 20 91-0066	LF		>2,000', >3" To 6" Diameter Pipe, Purge Liquid System	0.87	
23 01 20 91-0067	EA		Up To 100', >6" To 10" Diameter Pipe, Purge Liquid System	953.11	
23 01 20 91-0068	EA		>100 To 250', >6" To 10" Diameter Pipe, Purge Liquid System	1,361.23	
23 01 20 91-0069	EA		>250 To 500', >6" To 10" Diameter Pipe, Purge Liquid System	1,445.16	
23 01 20 91-0070	EA		>500 To 1,000', >6" To 10" Diameter Pipe, Purge Liquid System	1,806.44	
23 01 20 91-0071	EA		>1,000 To 2,000', >6" To 10" Diameter Pipe, Purge Liquid System	2,348.38	
23 01 20 91-0072	LF		>2,000', >6" To 10" Diameter Pipe, Purge Liquid System	1.17	
23 01 20 91-0073			Special Cleaning Of Piping Systems (23 01 20 91)		
23 01 20 91-0074			Trisodium Phosphate-Caustic Pipe Disinfection/Flush/Testing (23 01 20 91-0073)		
23 01 20 91-0075	LF		Up To 1", Trisodium Phosphate-Caustic Pipe Disinfection/Flush/Testing	2.44	
			For >250 To 500, Deduct	-0.16	
			For >500 To 2000, Deduct	-0.40	
			For >2000, Deduct	-0.58	
23 01 20 91-0076	LF		>1" To 2", Trisodium Phosphate-Caustic Pipe Disinfection/Flush/Testing	4.11	
			For >250 To 500, Deduct	-0.26	
			For >500 To 2000, Deduct	-0.64	
			For >2000, Deduct	-0.93	
23 01 20 91-0077	LF		>2" To 3", Trisodium Phosphate-Caustic Pipe Disinfection/Flush/Testing	5.78	
			For >250 To 500, Deduct	-0.35	
			For >500 To 2000, Deduct	-0.88	
			For >2000, Deduct	-1.28	
23 01 20 91-0078	LF		>3" To 4", Trisodium Phosphate-Caustic Pipe Disinfection/Flush/Testing	7.49	
			For >250 To 500, Deduct	-0.45	
			For >500 To 2000, Deduct	-1.14	
			For >2000, Deduct	-1.65	
23 01 20 91-0079	LF		>4" To 6", Trisodium Phosphate-Caustic Pipe Disinfection/Flush/Testing	10.38	
			For >250 To 500, Deduct	-0.64	
			For >500 To 2000, Deduct	-1.59	
			For >2000, Deduct	-2.31	
23 01 20 91-0080			Acrysol Qr-1086 and Dequest 2010 Pipe Disinfection/Flush/Testing (23 01 20 91-0073)		
23 01 20 91-0081	LF		Up To 1", Acrysol Qr-1086 and Dequest 2010 Pipe Disinfection/Flush/Testing	2.68	
			For >250 To 500, Deduct	-0.16	
			For >500 To 2000, Deduct	-0.40	
			For >2000, Deduct	-0.58	
23 01 20 91-0082	LF		>1" To 2", Acrysol Qr-1086 and Dequest 2010 Pipe Disinfection/Flush/Testing	4.41	
			For >250 To 500, Deduct	-0.26	
			For >500 To 2000, Deduct	-0.64	
			For >2000, Deduct	-0.93	
23 01 20 91-0083	LF		>2" To 3", Acrysol Qr-1086 and Dequest 2010 Pipe Disinfection/Flush/Testing	6.20	
			For >250 To 500, Deduct	-0.35	
			For >500 To 2000, Deduct	-0.88	
			For >2000, Deduct	-1.28	
23 01 20 91-0084	LF		>3" To 4", Acrysol Qr-1086 and Dequest 2010 Pipe Disinfection/Flush/Testing	8.13	
			For >250 To 500, Deduct	-0.45	
			For >500 To 2000, Deduct	-1.14	
			For >2000, Deduct	-1.65	
23 01 20 91-0085	LF		>4" To 6", Acrysol Qr-1086 and Dequest 2010 Pipe Disinfection/Flush/Testing	11.22	
			For >250 To 500, Deduct	-0.64	
			For >500 To 2000, Deduct	-1.59	
			For >2000, Deduct	-2.31	
23 01 20 91-0086			Drewspense 4945/4395 Pipe Disinfection/Flush/Testing (23 01 20 91-0073)		
23 01 20 91-0087	LF		Up To 1", Drewspense 4945/4395 Pipe Disinfection/Flush/Testing	2.75	
			For >250 To 500, Deduct	-0.16	
			For >500 To 2000, Deduct	-0.40	
			For >2000, Deduct	-0.58	
23 01 20 91-0088	LF		>1" To 2", Drewspense 4945/4395 Pipe Disinfection/Flush/Testing	4.53	
			For >250 To 500, Deduct	-0.26	
			For >500 To 2000, Deduct	-0.64	
			For >2000, Deduct	-0.93	
23 01 20 91-0089	LF		>2" To 3", Drewspense 4945/4395 Pipe Disinfection/Flush/Testing	6.38	
			For >250 To 500, Deduct	-0.35	
			For >500 To 2000, Deduct	-0.88	
			For >2000, Deduct	-1.28	
23 01 20 91-0090	LF		>3" To 4", Drewspense 4945/4395 Pipe Disinfection/Flush/Testing	8.37	
			For >250 To 500, Deduct	-0.45	
			For >500 To 2000, Deduct	-1.14	
			For >2000, Deduct	-1.65	
23 01 20 91-0091	LF		>4" To 6", Drewspense 4945/4395 Pipe Disinfection/Flush/Testing	11.55	
			For >250 To 500, Deduct	-0.64	
			For >500 To 2000, Deduct	-1.59	
			For >2000, Deduct	-2.31	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 01 Operation and Maintenance of HVAC Systems****23 01 20 Operation and Maintenance of HVAC Piping and Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 01 20 91-0092	Add-A-Valve Emergency Shut Off Device (23 01 20 91)	
23 01 20 91-0093	EA 1/2" Add-A-Valve Emergency Shut Off Device (Jomar 800-103ADD)	388.57
23 01 20 91-0094	EA 3/4" Add-A-Valve Emergency Shut Off Device (Jomar 800-104ADD)	489.72
23 01 20 91-0095	EA 1" Add-A-Valve Emergency Shut Off Device (Jomar 800-105ADD)	680.69
23 01 20 91-0096	EA 1-1/4" Add-A-Valve Emergency Shut Off Device (Jomar 800-106ADD)	1,045.74
23 01 20 91-0097	EA 1-1/2" Add-A-Valve Emergency Shut Off Device (Jomar 800-107ADD)	1,292.53
23 01 20 91-0098	EA 2" Add-A-Valve Emergency Shut Off Device (Jomar 800-108ADD)	1,957.63

23 01 30 Operation and Maintenance of HVAC Air Distribution (23 01)**23 01 30 51 HVAC Air-Distribution System Cleaning** (23 01 30)

23 01 30 51-0001	Cleaning Of Ductwork And HVAC Equipment (23 01 30 51)	
23 01 30 51-0002	LF Up To 2 SF Cross Section, Clean Supply/Return Ductwork	3.67
	Note: Includes sealing registers, grilles, diffusers as required. Excludes cleaning of registers, grilles, diffusers, or other devices.	
	<i>For Exhaust Ductwork, Add</i>	0.92
23 01 30 51-0003	LF >2 SF To 4 SF Cross Section, Clean Supply/Return Ductwork	4.60
	Note: Includes sealing registers, grilles, diffusers as required. Excludes cleaning of registers, grilles, diffusers, or other devices.	
	<i>For Exhaust Ductwork, Add</i>	1.15
23 01 30 51-0004	LF >4 SF To 8 SF Cross Section, Clean Supply/Return Ductwork	6.18
	Note: Includes sealing registers, grilles, diffusers as required. Excludes cleaning of registers, grilles, diffusers, or other devices.	
	<i>For Exhaust Ductwork, Add</i>	1.55
23 01 30 51-0005	LF >8 SF Cross Section, Clean Supply/Return Ductwork	8.76
	Note: Includes sealing registers, grilles, diffusers as required. Excludes cleaning of registers, grilles, diffusers, or other devices.	
	<i>For Exhaust Ductwork, Add</i>	2.19
23 01 30 51-0006	SF Clean Duct Dampers	12.34
23 01 30 51-0007	SF Clean Duct Fire Dampers	24.68
23 01 30 51-0008	SF Clean Louver	9.88
23 01 30 51-0009	EA Clean Turning Vane Set	29.63
23 01 30 51-0010	EA Clean Grille/Diffuser/Register	29.63
	Note: Includes removal and reinstallation.	
23 01 30 51-0011	LF Clean Linear Diffuser	7.41
	Note: Includes removal and reinstallation.	
23 01 30 51-0012	EA Cut Access For Cleaning Duct And Install Duct Insulated Access Doors	103.75
	<i>For Stainless Steel, Add</i>	74.44
23 01 30 51-0013	EA Clean Variable Air Volume (VAV) Unit	88.87
23 01 30 51-0014	EA Clean Fan Powered Induction Unit (PIU) Unit	118.50
23 01 30 51-0015	EA Clean Fan Coil Unit (FCU)	118.50
23 01 30 51-0016	EA Clean Packaged Terminal Air Conditioning Unit	118.50
23 01 30 51-0017	EA Clean Supply Or Return Fan	237.00
23 01 30 51-0018	EA Clean Exhaust Fan	207.38
23 01 30 51-0019	EA Clean Duct Coil	177.75
23 01 30 51-0020	SF Clean Air Handling Unit Interior Housing With High Efficiency Particulate Air (HEPA) Vacuum	5.93
	Note: Excluding fan and coils.	
23 01 30 51-0021	EA Clean Air Handling Unit Fan	237.00
23 01 30 51-0022	EA Clean Air Handling Unit Coil	355.51
23 01 30 51-0023	SF Clean Equipment Surfaces, Rust Reform And Prime	3.28
23 01 30 51-0024	SF Clean Interior Equipment Surfaces, Rust Reform And Prime	3.87
23 01 30 51-0025	SF High Efficiency Particulate Air (HEPA) Vacuuming Of Walls, Ceilings And Floors In Mechanical Rooms	0.73
23 01 30 51-0026	EA Cleaning Of Ductwork Minimum Set-up Charge	862.66
	Note: For projects where the total charges are less than the minimum set-up charge, use this task exclusively. This task should not be used in conjunction with any other tasks in this section.	
23 01 30 51-0027	SF Apply Anti-microbial Agent To Ductwork And Surfaces After Cleaning	0.53

23 01 30 61 HVAC Air-Distribution Duct Repair (23 01 30)

23 01 30 61-0001	Repair And Seal Ductwork (23 01 30 61)	
	Note: Includes removal of existing insulation, repair/seal ductwork with Duct Sealer and reinstallation of insulation. Excludes new ductwork.	
23 01 30 61-0002	SF Repair And Sealing Of Ductwork	2.24
	Note: Clean, apply sealant and tape	
23 01 30 61-0003	Temporary Duct Seal To Restrict Airflow (23 01 30 61)	
	Note: Includes inserting temporary seal in duct at access door, filling with air and removal after use. Excludes installing new access door in ductwork or reworking ductwork. See CSI section 23 01 30 61-0022 for rework ductwork, 23 33 33 00-0000 for access doors.	
23 01 30 61-0004	EA 4" Diameter, Temporary Re-usable Inflatable Duct Plug	31.88
	Note: Includes removal after use.	
23 01 30 61-0005	EA 6" Diameter, Temporary Re-usable Inflatable Duct Plug	35.07
	Note: Includes removal after use.	
23 01 30 61-0006	EA 8" Diameter, Temporary Re-usable Inflatable Duct Plug	39.84
	Note: Includes removal after use.	
23 01 30 61-0007	EA 10" Diameter, Temporary Re-usable Inflatable Duct Plug	43.60
	Note: Includes removal after use.	
23 01 30 61-0008	EA 12" Diameter, Temporary Re-usable Inflatable Duct Plug	47.89
	Note: Includes removal after use.	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 01 30 61-0009	EA	16" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	53.46	
23 01 30 61-0010	EA	20" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	59.23	
23 01 30 61-0011	EA	24" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	64.63	
23 01 30 61-0012	EA	28" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	68.20	
23 01 30 61-0013	EA	30" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	73.74	
23 01 30 61-0014	EA	33" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	78.06	
23 01 30 61-0015	EA	36" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	83.42	
23 01 30 61-0016	EA	39" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	92.97	
23 01 30 61-0017	EA	42" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	101.26	
23 01 30 61-0018	EA	45" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	111.29	
23 01 30 61-0019	EA	48" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	120.70	
23 01 30 61-0020	EA	54" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	151.45	
23 01 30 61-0021	EA	60" Diameter, Temporary Re-usable Inflatable Duct Plug Note: Includes removal after use.	187.78	
23 01 30 61-0022		Rework Sheet Metal Ductwork (23 01 30 61) Note: Includes removal of existing ductwork and reinstallation of ductwork. Excludes new ductwork.		
23 01 30 61-0023	LF	Up To 1 SF Cross Section, Rework Existing Ductwork	31.76	
23 01 30 61-0024	LF	>1 To 2 SF Cross Section, Rework Existing Ductwork	61.92	
23 01 30 61-0025	LF	>2 To 4 SF Cross Section, Rework Existing Ductwork	81.81	
23 01 30 61-0026	LF	>4 To 6 SF Cross Section, Rework Existing Ductwork	102.46	
23 01 30 61-0027	LF	>6 To 8 SF Cross Section, Rework Existing Ductwork	142.89	
23 01 30 61-0028	LF	>8 To 10 SF Cross Section, Rework Existing Ductwork	166.71	
23 01 30 61-0029	LF	>10 To 12 SF Cross Section, Rework Existing Ductwork	190.52	
23 01 30 61-0030	LF	>12 To 14 SF Cross Section, Rework Existing Ductwork	214.34	
23 01 50		Operation and Maintenance of Central Heating Equipment (23 01)		
23 01 50 61		Central Heating Equipment Repair (23 01 50)		
23 01 50 61-0001		Boiler Repairs (23 01 50 61)		
23 01 50 61-0002		Setup And Maintenance (23 01 50 61-0001)		
23 01 50 61-0003	EA	Set-up Charge For Boiler Fire Side Maintenance Note: Includes removing/relocating doors, plates, portals, and burners required to access fireside.	2,490.15	
23 01 50 61-0004	EA	Close-up Charge For Boiler Fire Side Maintenance Note: Includes replacement of doors, plates, portals, burners, adhesive, rope, wool, and seals.	2,727.17	
		<i>For Burner Seals, Add</i> <i>Note: Used when burner must be removed from door for maintenance.</i>	649.02	
23 01 50 61-0005	EA	Setup Charge For Boiler Water Side Maintenance Note: Includes closing valves, draining, and positioning equipment needed for tube replacement.	3,320.20	
23 01 50 61-0006	EA	Up To 100 HP, Hydrostatic Test - Boiler Maintenance Note: Includes close-up charge for water side maintenance, blanking off supply, return, and relief valves for test and reconnection after test.	1,660.10	
23 01 50 61-0007	EA	>100 HP, Hydrostatic Test - Boiler Maintenance Note: Includes close-up charge for water side maintenance, blanking off supply, return, and relief valves for test and reconnection after test.	3,320.20	
23 01 50 61-0008	EA	Removal And Replacement Of Handhole	103.76	
23 01 50 61-0009	EA	Removal And Replacement Of Manhole	311.27	
23 01 50 61-0010	SF	Sheet Metal Jacket Patch	11.99	
23 01 50 61-0011		Boiler Tube Replacement (23 01 50 61-0001)		
23 01 50 61-0012	EA	Removal Of Up To 2" Boiler Tube (23 01 50 61-0001)	249.01	
23 01 50 61-0013	EA	Removal Of >2" To 3" Boiler Tube	311.27	
23 01 50 61-0014	EA	Removal Of >3" To 4" Boiler Tube	435.77	
23 01 50 61-0015	LF	Place 1-1/2" Boiler Tube Into Position For Termination Note: Includes black steel tube, fasteners and accessories.	18.44	
23 01 50 61-0016	LF	Place 2" Boiler Tube Into Position For Termination Note: Includes black steel tube, fasteners and accessories.	21.75	
23 01 50 61-0017	LF	Place 2-1/2" Boiler Tube Into Position For Termination Note: Includes black steel tube, fasteners and accessories.	25.12	
23 01 50 61-0018	LF	Place 3" Boiler Tube Into Position For Termination Note: Includes black steel tube, fasteners and accessories.	37.99	
23 01 50 61-0019	LF	Place 3-1/2" Boiler Tube Into Position For Termination Note: Includes black steel tube, fasteners and accessories.	45.10	
23 01 50 61-0020	LF	Place 4" Boiler Tube Into Position For Termination Note: Includes black steel tube, fasteners and accessories.	59.08	
23 01 50 61-0021	EA	1-1/2" Rolled Boiler Tube Termination (2 Per New Tube)	31.13	
23 01 50 61-0022	EA	2" Rolled Boiler Tube Termination (2 Per New Tube)	46.69	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 01 Operation and Maintenance of HVAC Systems****23 01 50 Operation and Maintenance of Central Heating Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 01 50 61-0023 EA 2-1/2" Rolled Boiler Tube Termination (2 Per New Tube).....	62.25	
23 01 50 61-0024 EA 3" Rolled Boiler Tube Termination (2 Per New Tube).....	77.82	
23 01 50 61-0025 EA 3-1/2" Rolled Boiler Tube Termination (2 Per New Tube).....	93.38	
23 01 50 61-0026 EA 4" Rolled Boiler Tube Termination (2 Per New Tube).....	108.95	
23 01 50 61-0027 EA 1-1/2" Welded Boiler Tube Termination (2 Per New Tube).....	93.38	
23 01 50 61-0028 EA 2" Welded Boiler Tube Termination (2 Per New Tube).....	124.51	
23 01 50 61-0029 EA 2-1/2" Welded Boiler Tube Termination (2 Per New Tube).....	155.64	
23 01 50 61-0030 EA 3" Welded Boiler Tube Termination (2 Per New Tube).....	186.77	
23 01 50 61-0031 EA 3-1/2" Welded Boiler Tube Termination (2 Per New Tube).....	217.89	
23 01 50 61-0032 EA 4" Welded Boiler Tube Termination (2 Per New Tube).....	249.01	
23 01 50 61-0033 EA Plug Boiler Tube Hole Where Boiler Tube Is Not Replaced.....	389.66	
23 01 50 61-0034 Cast Iron Boiler Section Replacement (23 01 50 61-0001)		
23 01 50 61-0035 EA Removal And Replacement Of Front Section Of Weil McLain Model 80 Cast Iron Boiler.....	2,766.98	
23 01 50 61-0036 EA Removal And Replacement Of Rear Section Of Weil McLain Model 80 Cast Iron Boiler.....	1,907.01	
23 01 50 61-0037 EA Removal And Replacement Of Inside Section Of Weil McLain Model 80 Cast Iron Boiler.....	2,390.04	
23 01 50 61-0038 EA Removal And Replacement Of Front Section Of Weil McLain Model 88 Cast Iron Boiler.....	5,098.79	
23 01 50 61-0039 EA Removal And Replacement Of Rear Section Of Weil McLain Model 88 Cast Iron Boiler.....	3,765.47	
23 01 50 61-0040 EA Removal And Replacement Of Inside Section Of Weil McLain Model 88 Cast Iron Boiler.....	4,377.82	
23 01 50 61-0041 EA Removal And Replacement Of Front Section Of Weil McLain Model 94 Cast Iron Boiler.....	8,276.62	
23 01 50 61-0042 EA Removal And Replacement Of Rear Section Of Weil McLain Model 94 Cast Iron Boiler.....	6,448.84	
23 01 50 61-0043 EA Removal And Replacement Of Inside Section Of Weil McLain Model 94 Cast Iron Boiler.....	6,906.78	
23 01 50 61-0044 Cast Iron Grate Replacement (23 01 50 61-0001)		
23 01 50 61-0045 SF Removal And Replacement Of Cast Iron Boiler Grates, Prepared From Casting Mold.....	143.44	
Note: Includes support, linkages and removal of existing.		
23 01 50 61-0046 EA Prepare Cast Iron Boiler Grate Mold.....	2,168.43	
Note: Includes preparing unique size mold for grate casting. Mold to be used for multiple castings.		
23 01 50 61-0047 Replacement Or Conversion Of Boiler Burners (23 01 50 61-0001)		
Note: Includes mounting plate, mechanical and electrical labor for installation of burners.		
23 01 50 61-0048 EA 700 MBH Max Input Burner With 2" Boiler Connection, Screwed.....	10,588.67	1,093.70
23 01 50 61-0049 EA 2,100 MBH Max Input Burner With 2-1/2" Boiler Connection, Screwed.....	15,323.17	1,354.08
23 01 50 61-0050 EA 2,800 MBH Max Input Burner With 3" Boiler Connection, Screwed.....	18,091.27	1,640.43
23 01 50 61-0051 EA 3,800 MBH Max Input Burner With 4" Boiler Connection, Flanged.....	21,374.68	1,765.60
23 01 50 61-0052 Video Inspection Of Boiler Tubing (23 01 50 61-0001)		
23 01 50 61-0053 EA Initial Set Up For Boiler Tubing Video Camera Inspection.....	496.68	
23 01 50 61-0054 LF Boiler Tubing Inspection.....	0.60	
23 01 50 61-0055 Boiler And Chiller Water Treatment (23 01 50 61)		
Note: 3 LB chemical per 50 gallon system water.		
23 01 50 61-0056 LB Boil Out Boiler And System With Caustic Soda.....	1.69	
Note: Includes disposal after treatment.		
23 01 50 61-0057 LB Boil Out Boiler And System With Trisodium Phosphate.....	2.54	
Note: Includes disposal after treatment.		
23 01 50 61-0058 GAL Corrosion Resistant Chemical Treatment, Based On Gallons Of Chemical Required.....	158.67	
23 01 60 Operation and Maintenance of Central Cooling Equipment (23 01)		
23 01 60 61 Central Cooling Equipment Repair (23 01 60)		
23 01 60 61-0001 Cooling Tower Repairs (23 01 60 61)		
23 01 60 61-0002 EA Replace 6' Diameter 4 Blade, Cooling Tower Fan Blade.....	3,494.95	
23 01 60 61-0003 EA Replace 6' Diameter 5 Blade, Cooling Tower Fan Blade.....	4,125.28	
23 01 60 61-0004 EA Replace 6' Diameter 6 Blade, Cooling Tower Fan Blade.....	4,750.98	
23 01 60 61-0005 EA Replace 6' Diameter 7 Blade, Cooling Tower Fan Blade.....	5,618.25	
23 01 60 61-0006 EA Replace 6' Diameter 8 Blade, Cooling Tower Fan Blade.....	6,195.66	
23 01 60 61-0007 EA Replace 8' Diameter 4 Blade, Cooling Tower Fan Blade.....	3,854.55	
23 01 60 61-0008 EA Replace 8' Diameter 5 Blade, Cooling Tower Fan Blade.....	4,296.21	
23 01 60 61-0009 EA Replace 8' Diameter 6 Blade, Cooling Tower Fan Blade.....	5,055.35	
23 01 60 61-0010 EA Replace 8' Diameter 7 Blade, Cooling Tower Fan Blade.....	5,768.49	
23 01 60 61-0011 EA Replace 8' Diameter 8 Blade, Cooling Tower Fan Blade.....	6,359.71	
23 01 60 61-0012 EA Replace Individual Cooling Tower Fan Blade For 6' Diameter Fan.....	959.99	
23 01 60 61-0013 EA Replace Individual Cooling Tower Fan Blade For 8' Diameter Fan.....	995.56	
23 01 60 61-0014 EA Replace Individual Cooling Tower Fan Blade For 10' Diameter Fan.....	1,063.36	
23 01 60 61-0015 EA Replace Individual Cooling Tower Fan Blade For 12' Diameter Fan.....	1,239.25	
23 01 60 61-0016 EA Replace Individual Cooling Tower Fan Blade For 14' Diameter Fan.....	1,537.06	
23 01 60 61-0017 EA Replace Individual Cooling Tower Fan Blade For 16' Diameter Fan.....	2,081.03	
23 01 60 61-0018 EA Replace Individual Cooling Tower Fan Blade For 18' Diameter Fan.....	2,187.92	
23 01 60 61-0019 EA Replace Individual Cooling Tower Fan Blade For 20' Diameter Fan.....	2,348.26	
23 01 60 61-0020 EA Replace Counterflow Nozzle (1/2" - 2" NPT Thread).....	39.63	
23 01 60 61-0021 EA Replace 6' Polyvinyl Chloride (PVC) Splash Fill.....	23.39	



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 01 60 71 Refrigerant Recovery/Recycling (23 01 60)				
23 01 60 71-0001 Refrigerant Recovery, Reclaim And Recycling (23 01 60 71)				
23 01 60 71-0002	LB	Recovery Of Refrigerant.....	11.78	
23 01 60 71-0003	LB	Recovery And Recharging Of Refrigerant	22.11	
Note: Includes cleaning refrigerant gas prior to recharging.				
23 01 60 71-0004	LB	Recharging Of Refrigerant.....	9.93	
Note: Excludes refrigerant filling at time of installation of HVAC or Condenser units.				
23 05 Common Work Results for HVAC (23)				
23 05 13 Common Motor Requirements for HVAC Equipment (23 05)				
Note: New equipment includes motor, unless otherwise stated. For use when replacing existing motor.				
23 05 13 00-0001 Premium Efficient, Motors (23 05 13)				
Note: New equipment includes motor, unless otherwise stated. For use when replacing existing motor. Excludes installation.				
23 05 13 00-0002 Premium Efficient, Open Drip Proof Motors (23 05 13 00-0001)				
Note: NEMA premium efficiency, open drip proof, three phase AC motors.				
23 05 13 00-0003 Steel Frame, Premium Efficient, Open Drip Proof Motors (23 05 13 00-0002)				
23 05 13 00-0004	EA	1 HP, 3,600 RPM, 56 NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	725.71	
23 05 13 00-0005	EA	1 HP, 1,800 RPM, 143T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	821.73	
23 05 13 00-0006	EA	1 HP, 1,200 RPM, 145T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	963.41	
23 05 13 00-0007	EA	1-1/2 HP, 3,600 RPM, 143T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	809.14	
23 05 13 00-0008	EA	1-1/2 HP, 1,800 RPM, 145T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	859.51	
23 05 13 00-0009	EA	1-1/2 HP, 1,200 RPM, 182T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	1,127.13	
23 05 13 00-0010	EA	2 HP, 3,600 RPM, 145T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	950.82	
23 05 13 00-0011	EA	2 HP, 1,800 RPM, 145T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	920.91	
23 05 13 00-0012	EA	2 HP, 1,200 RPM, 184T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	1,152.31	
23 05 13 00-0013	EA	3 HP, 3,600 RPM, 182T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	963.41	
23 05 13 00-0014	EA	3 HP, 1,800 RPM, 182T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	993.32	
23 05 13 00-0015	EA	3 HP, 1,200 RPM, 213T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	1,467.15	
23 05 13 00-0016	EA	5 HP, 3,600 RPM, 184T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	1,051.57	
23 05 13 00-0017	EA	5 HP, 1,800 RPM, 184T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	1,087.77	
23 05 13 00-0018	EA	5 HP, 1,200 RPM, 215T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	1,922.10	
23 05 13 00-0019	EA	7-1/2 HP, 3,600 RPM, 213T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	1,668.65	
23 05 13 00-0020	EA	7-1/2 HP, 1,800 RPM, 213T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	1,599.39	
23 05 13 00-0021	EA	7-1/2 HP, 1,200 RPM, 254T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	2,304.63	
23 05 13 00-0022	EA	10 HP, 3,600 RPM, 215T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	1,907.93	
23 05 13 00-0023	EA	10 HP, 1,800 RPM, 215T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	1,936.27	
23 05 13 00-0024	EA	10 HP, 1,200 RPM, 256T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	2,998.85	
23 05 13 00-0025	EA	15 HP, 3,600 RPM, 254T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	2,710.77	
23 05 13 00-0026	EA	15 HP, 1,800 RPM, 254T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	2,742.26	
23 05 13 00-0027	EA	15 HP, 1,200 RPM, 284T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	4,044.12	
23 05 13 00-0028	EA	20 HP, 3,600 RPM, 256T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	3,184.61	
23 05 13 00-0029	EA	20 HP, 1,800 RPM, 256T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	3,442.78	
23 05 13 00-0030	EA	20 HP, 1,200 RPM, 286T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	4,922.52	
23 05 13 00-0031	EA	25 HP, 3,600 RPM, 284TS NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	3,823.73	
23 05 13 00-0032	EA	25 HP, 1,800 RPM, 284T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	4,196.82	
23 05 13 00-0033	EA	25 HP, 1,200 RPM, 324T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	5,945.75	
23 05 13 00-0034	EA	30 HP, 3,600 RPM, 286TS NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	4,511.66	
23 05 13 00-0035	EA	30 HP, 1,800 RPM, 286T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	4,588.79	
23 05 13 00-0036	EA	30 HP, 1,200 RPM, 326T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	6,202.35	
23 05 13 00-0037	EA	40 HP, 3,600 RPM, 324TS NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	5,813.52	
23 05 13 00-0038	EA	40 HP, 1,800 RPM, 324T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	5,986.68	
23 05 13 00-0039	EA	50 HP, 3,600 RPM, 326TS NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	6,331.43	
23 05 13 00-0040	EA	50 HP, 1,800 RPM, 326T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	6,606.92	
23 05 13 00-0041	EA	60 HP, 3,600 RPM, 364TS NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	8,011.10	
23 05 13 00-0042	EA	60 HP, 1,800 RPM, 364T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	8,318.07	
23 05 13 00-0043	EA	75 HP, 3,600 RPM, 365TS NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	10,509.36	
23 05 13 00-0044	EA	75 HP, 1,800 RPM, 365T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	10,210.26	
23 05 13 00-0045	EA	100 HP, 3,600 RPM, 365TS NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	11,233.49	
23 05 13 00-0046	EA	100 HP, 1,800 RPM, 404T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	11,878.91	
23 05 13 00-0047	EA	125 HP, 3,600 RPM, 404TS NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	14,098.54	
23 05 13 00-0048	EA	125 HP, 1,800 RPM, 405T NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	14,572.37	
23 05 13 00-0049	EA	150 HP, 3,600 RPM, 405TS NEMA Steel Frame, Premium Efficient, Open Drip Proof Motor	17,391.76	
23 05 13 00-0050 Cast Iron Frame, Premium Efficient, Open Drip Proof Motors (23 05 13 00-0002)				
23 05 13 00-0051	EA	40 HP, 1,200 RPM, 364T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	8,835.98	
23 05 13 00-0052	EA	50 HP, 1,200 RPM, 365T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	10,696.69	
23 05 13 00-0053	EA	60 HP, 1,200 RPM, 404T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	13,580.62	
23 05 13 00-0054	EA	75 HP, 1,200 RPM, 405T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	15,120.19	
23 05 13 00-0055	EA	100 HP, 1,200 RPM, 444T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	16,642.44	
23 05 13 00-0056	EA	125 HP, 1,200 RPM, 445T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	17,972.64	
23 05 13 00-0057	EA	150 HP, 1,800 RPM, 444T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	16,187.50	
23 05 13 00-0058	EA	150 HP, 1,200 RPM, 445T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	21,166.69	
23 05 13 00-0059	EA	200 HP, 3,600 RPM, 444TS NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	19,708.98	
23 05 13 00-0060	EA	200 HP, 1,800 RPM, 445T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor	20,228.47	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 13 Common Motor Requirements for HVAC Equipment**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 13 00-0061 EA 200 HP, 1,200 RPM, 447T NEMA Cast Iron Frame, Premium Efficient, Open Drip Proof Motor.....27,823.98

23 05 13 00-0062 Premium Efficient, TEFC Motors (23 05 13 00-0001)

Note: NEMA premium efficiency, totally enclosed fan cooled, three phase AC motors.

23 05 13 00-0063 Steel Frame, Premium Efficient, TEFC Motors (23 05 13 00-0062)

23 05 13 00-0064	EA	1 HP, 3,600 RPM, 56 NEMA Steel Frame, Premium Efficient, TEFC Motor.....	848.49
23 05 13 00-0065	EA	1 HP, 1,800 RPM, 143T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	935.07
23 05 13 00-0066	EA	1 HP, 1,200 RPM, 145T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,112.96
23 05 13 00-0067	EA	1-1/2 HP, 3,600 RPM, 143T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	961.84
23 05 13 00-0068	EA	1-1/2 HP, 1,800 RPM, 145T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	971.28
23 05 13 00-0069	EA	2 HP, 3,600 RPM, 145T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,053.14
23 05 13 00-0070	EA	2 HP, 1,800 RPM, 145T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,007.49
23 05 13 00-0071	EA	3 HP, 3,600 RPM, 182T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,168.06
23 05 13 00-0072	EA	3 HP, 1,800 RPM, 182T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,112.96
23 05 13 00-0073	EA	3 HP, 1,200 RPM, 213T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,786.72
23 05 13 00-0074	EA	5 HP, 3,600 RPM, 184T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,295.57
23 05 13 00-0075	EA	5 HP, 1,800 RPM, 184T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,218.43
23 05 13 00-0076	EA	5 HP, 1,200 RPM, 215T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	2,018.12
23 05 13 00-0077	EA	7-1/2 HP, 3,600 RPM, 213T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,940.99
23 05 13 00-0078	EA	7-1/2 HP, 1,800 RPM, 213T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,756.81
23 05 13 00-0079	EA	10 HP, 3,600 RPM, 215T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,967.75
23 05 13 00-0080	EA	10 HP, 1,800 RPM, 215T NEMA Steel Frame, Premium Efficient, TEFC Motor.....	1,983.49

23 05 13 00-0081 Cast Iron Frame, Premium Efficient, TEFC Motors (23 05 13 00-0062)

23 05 13 00-0082	EA	1 HP, 1,800 RPM, 143T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,210.56
23 05 13 00-0083	EA	1 HP, 1,200 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,355.39
23 05 13 00-0084	EA	1-1/2 HP, 3,600 RPM, 143T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,278.25
23 05 13 00-0085	EA	1-1/2 HP, 1,800 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,254.64
23 05 13 00-0086	EA	1-1/2 HP, 1,200 RPM, 182T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,613.56
23 05 13 00-0087	EA	2 HP, 3,600 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,344.37
23 05 13 00-0088	EA	2 HP, 1,800 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,314.46
23 05 13 00-0089	EA	2 HP, 1,200 RPM, 184T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,638.74
23 05 13 00-0090	EA	3 HP, 3,600 RPM, 182T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,451.41
23 05 13 00-0091	EA	3 HP, 1,800 RPM, 182T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,492.34
23 05 13 00-0092	EA	3 HP, 1,200 RPM, 213T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	2,041.74
23 05 13 00-0093	EA	5 HP, 3,600 RPM, 184T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,786.72
23 05 13 00-0094	EA	5 HP, 1,800 RPM, 184T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,493.92
23 05 13 00-0095	EA	5 HP, 1,200 RPM, 215T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	2,369.17
23 05 13 00-0096	EA	7-1/2 HP, 3,600 RPM, 213T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	2,068.50
23 05 13 00-0097	EA	7-1/2 HP, 1,800 RPM, 213T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	1,992.94
23 05 13 00-0098	EA	7-1/2 HP, 1,200 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	3,378.23
23 05 13 00-0099	EA	10 HP, 3,600 RPM, 215T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	2,424.27
23 05 13 00-0100	EA	10 HP, 1,800 RPM, 215T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	2,235.36
23 05 13 00-0101	EA	10 HP, 1,200 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	3,856.79
23 05 13 00-0102	EA	15 HP, 3,600 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	3,340.45
23 05 13 00-0103	EA	15 HP, 1,800 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	3,057.10
23 05 13 00-0104	EA	15 HP, 1,200 RPM, 284T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	5,144.49
23 05 13 00-0105	EA	20 HP, 3,600 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	3,666.31
23 05 13 00-0106	EA	20 HP, 1,800 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	3,707.24
23 05 13 00-0107	EA	20 HP, 1,200 RPM, 286T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	6,849.34
23 05 13 00-0108	EA	25 HP, 3,600 RPM, 284TS NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	4,783.99
23 05 13 00-0109	EA	25 HP, 1,800 RPM, 284T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	4,848.54
23 05 13 00-0110	EA	25 HP, 1,200 RPM, 324T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	7,749.79
23 05 13 00-0111	EA	30 HP, 3,600 RPM, 286TS NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	5,684.44
23 05 13 00-0112	EA	30 HP, 1,800 RPM, 286T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	5,752.13
23 05 13 00-0113	EA	30 HP, 1,200 RPM, 326T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	8,952.48
23 05 13 00-0114	EA	40 HP, 3,600 RPM, 324TS NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	7,792.29
23 05 13 00-0115	EA	40 HP, 1,800 RPM, 324T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	7,521.53
23 05 13 00-0116	EA	40 HP, 1,200 RPM, 364T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	11,156.36
23 05 13 00-0117	EA	50 HP, 3,600 RPM, 326TS NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	8,524.29
23 05 13 00-0118	EA	50 HP, 1,800 RPM, 326T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	8,220.47
23 05 13 00-0119	EA	50 HP, 1,200 RPM, 365T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	13,481.45
23 05 13 00-0120	EA	60 HP, 3,600 RPM, 364TS NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	11,974.94
23 05 13 00-0121	EA	60 HP, 1,800 RPM, 364T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	11,828.54
23 05 13 00-0122	EA	60 HP, 1,200 RPM, 404T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	16,363.81
23 05 13 00-0123	EA	75 HP, 3,600 RPM, 365TS NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	13,931.67
23 05 13 00-0124	EA	75 HP, 1,800 RPM, 365T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	13,830.92
23 05 13 00-0125	EA	75 HP, 1,200 RPM, 405T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	19,055.69
23 05 13 00-0126	EA	100 HP, 1,800 RPM, 405T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	17,176.10
23 05 13 00-0127	EA	125 HP, 1,800 RPM, 444T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	21,264.29
23 05 13 00-0128	EA	150 HP, 1,800 RPM, 445T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	24,459.92
23 05 13 00-0129	EA	200 HP, 1,800 RPM, 447T NEMA Cast Iron Frame, Premium Efficient, TEFC Motor.....	30,740.98

23 05 13 00-0130 Premium Efficient, Severe Duty Motors (23 05 13 00-0001)

Note: NEMA premium efficiency, TEFC enclosure severe duty, three phase AC motors.

23 05 13 00-0131	EA	1 HP, 3,600 RPM, 143T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor.....	1,257.79
23 05 13 00-0132	EA	1 HP, 1,800 RPM, 143T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor.....	1,382.15



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Common Work Results for HVAC 23 05

Common Motor Requirements for HVAC Equipment 23 05 13

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 13 00-0133 EA 1 HP, 1,200 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,526.97	
23 05 13 00-0134 EA 1 HP, 900 RPM, L182T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,145.63	
23 05 13 00-0135 EA 1-1/2 HP, 3,600 RPM, 143T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,430.95	
23 05 13 00-0136 EA 1-1/2 HP, 1,800 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,408.91	
23 05 13 00-0137 EA 1-1/2 HP, 1,200 RPM, 182T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,786.72	
23 05 13 00-0138 EA 1-1/2 HP, 900 RPM, L184T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,669.84	
23 05 13 00-0139 EA 2 HP, 3,600 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,497.06	
23 05 13 00-0140 EA 2 HP, 1,800 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,470.30	
23 05 13 00-0141 EA 2 HP, 1,200 RPM, L184T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,810.33	
23 05 13 00-0142 EA 2 HP, 900 RPM, L213T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,367.21	
23 05 13 00-0143 EA 3 HP, 3,600 RPM, 182T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,770.98	
23 05 13 00-0144 EA 3 HP, 1,800 RPM, 182T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,860.70	
23 05 13 00-0145 EA 3 HP, 1,200 RPM, 213T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,613.17	
23 05 13 00-0146 EA 3 HP, 900 RPM, L215T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,652.14	
23 05 13 00-0147 EA 5 HP, 3,600 RPM, 184T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,178.69	
23 05 13 00-0148 EA 5 HP, 1,800 RPM, L184T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	1,893.76	
23 05 13 00-0149 EA 5 HP, 1,200 RPM, L215T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,647.80	
23 05 13 00-0150 EA 5 HP, 900 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	5,813.52	
23 05 13 00-0151 EA 7-1/2 HP, 3,600 RPM, 213T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,843.01	
23 05 13 00-0152 EA 7-1/2 HP, 1,800 RPM, L213T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,384.91	
23 05 13 00-0153 EA 7-1/2 HP, 1,200 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,789.10	
23 05 13 00-0154 EA 7-1/2 HP, 900 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	6,647.85	
23 05 13 00-0155 EA 10 HP, 3,600 RPM, 215T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,027.19	
23 05 13 00-0156 EA 10 HP, 1,800 RPM, L215T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	2,855.60	
23 05 13 00-0157 EA 10 HP, 1,200 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	4,922.52	
23 05 13 00-0158 EA 10 HP, 900 RPM, 284T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	7,754.51	
23 05 13 00-0159 EA 15 HP, 3,600 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,872.53	
23 05 13 00-0160 EA 15 HP, 1,800 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,637.98	
23 05 13 00-0161 EA 15 HP, 1,200 RPM, 284T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	5,643.51	
23 05 13 00-0162 EA 15 HP, 900 RPM, 286T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	10,351.94	
23 05 13 00-0163 EA 20 HP, 3,600 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	4,517.95	
23 05 13 00-0164 EA 20 HP, 1,800 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	3,902.44	
23 05 13 00-0165 EA 20 HP, 1,200 RPM, 286T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	7,667.93	
23 05 13 00-0166 EA 20 HP, 900 RPM, 324T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	11,801.78	
23 05 13 00-0167 EA 25 HP, 3,600 RPM, 284TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	5,429.42	
23 05 13 00-0168 EA 25 HP, 1,800 RPM, 284T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	5,106.70	
23 05 13 00-0169 EA 25 HP, 1,200 RPM, 324T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	8,012.68	
23 05 13 00-0170 EA 30 HP, 3,600 RPM, 286TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	6,619.51	
23 05 13 00-0171 EA 30 HP, 1,800 RPM, 286T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	6,063.82	
23 05 13 00-0172 EA 30 HP, 1,200 RPM, 326T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	10,329.90	
23 05 13 00-0173 EA 40 HP, 3,600 RPM, 324TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	9,094.15	
23 05 13 00-0174 EA 40 HP, 1,800 RPM, 324T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	7,933.97	
23 05 13 00-0175 EA 40 HP, 1,200 RPM, 364T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	12,875.38	
23 05 13 00-0176 EA 50 HP, 3,600 RPM, 326TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	9,530.21	
23 05 13 00-0177 EA 50 HP, 1,800 RPM, 326T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	9,312.97	
23 05 13 00-0178 EA 50 HP, 1,200 RPM, 365T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	13,714.43	
23 05 13 00-0179 EA 60 HP, 3,600 RPM, 364TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	13,830.92	
23 05 13 00-0180 EA 60 HP, 1,800 RPM, 364T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	12,481.83	
23 05 13 00-0181 EA 60 HP, 1,200 RPM, 404T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	18,732.98	
23 05 13 00-0182 EA 75 HP, 3,600 RPM, 365TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	15,461.79	
23 05 13 00-0183 EA 75 HP, 1,800 RPM, 365T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	14,584.96	
23 05 13 00-0184 EA 75 HP, 1,200 RPM, 405T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	22,799.14	
23 05 13 00-0185 EA 100 HP, 3,600 RPM, 405TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	19,435.07	
23 05 13 00-0186 EA 100 HP, 1,800 RPM, 405T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	19,145.42	
23 05 13 00-0187 EA 100 HP, 1,200 RPM, 444T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	25,077.01	
23 05 13 00-0188 EA 125 HP, 3,600 RPM, 444TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	22,836.92	
23 05 13 00-0189 EA 125 HP, 1,800 RPM, 444T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	22,633.85	
23 05 13 00-0190 EA 125 HP, 1,200 RPM, 445T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	28,329.30	
23 05 13 00-0191 EA 150 HP, 3,600 RPM, 445TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	26,772.42	
23 05 13 00-0192 EA 150 HP, 1,800 RPM, 445T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	26,515.82	
23 05 13 00-0193 EA 150 HP, 1,200 RPM, 447T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	31,940.52	
23 05 13 00-0194 EA 200 HP, 3,600 RPM, 447TS NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	31,702.81	
23 05 13 00-0195 EA 200 HP, 1,800 RPM, 447T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	31,898.01	
23 05 13 00-0196 EA 200 HP, 1,200 RPM, 449T NEMA Cast Iron Frame, Premium Efficient, Severe Duty Motor	41,839.09	

23 05 13 00-0197

Premium Efficient, Explosion Proof Motors (23 05 13 00-0001)

Note: NEMA premium efficiency, explosion proof, three phase AC motors.

23 05 13 00-0198 EA 1 HP, 1,800 RPM, 143T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	1,678.10
23 05 13 00-0199 EA 1-1/2 HP, 1,800 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	1,737.92
23 05 13 00-0200 EA 2 HP, 1,800 RPM, 145T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	1,895.34
23 05 13 00-0201 EA 3 HP, 1,800 RPM, L182T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	2,342.41
23 05 13 00-0202 EA 5 HP, 1,800 RPM, L184T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	2,597.43
23 05 13 00-0203 EA 7-1/2 HP, 1,800 RPM, 213T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	3,579.73
23 05 13 00-0204 EA 10 HP, 1,800 RPM, L215T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	3,653.72
23 05 13 00-0205 EA 15 HP, 1,800 RPM, 254T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	4,946.14
23 05 13 00-0206 EA 20 HP, 1,800 RPM, 256T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	5,638.78
23 05 13 00-0207 EA 25 HP, 1,800 RPM, 284T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	7,408.19
23 05 13 00-0208 EA 30 HP, 1,800 RPM, 286T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	8,314.92
23 05 13 00-0209 EA 40 HP, 1,800 RPM, 324T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	10,873.00
23 05 13 00-0210 EA 50 HP, 1,800 RPM, 326T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor	12,245.70

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 13 Common Motor Requirements for HVAC Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 13 00-0211 EA 60 HP, 1,800 RPM, 364T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	17,130.44	
23 05 13 00-0212 EA 75 HP, 1,800 RPM, 365T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	20,110.40	
23 05 13 00-0213 EA 100 HP, 1,800 RPM, 405T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	24,497.70	
23 05 13 00-0214 EA 125 HP, 1,800 RPM, 444T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	32,019.23	
23 05 13 00-0215 EA 150 HP, 1,800 RPM, 445T NEMA Cast Iron Frame, Premium Efficient, Explosion Proof Motor.....	36,534.03	
23 05 13 00-0216 Motor Mounting (23 05 13)		
Note: Includes handling and motor installation on mounting base. Excludes mounting base.		
23 05 13 00-0217 EA 1/2 HP Motor Mounting.....	193.38	98.39
23 05 13 00-0218 EA 3/4 HP Motor Mounting.....	222.82	122.99
23 05 13 00-0219 EA 1 HP Motor Mounting.....	238.36	122.99
23 05 13 00-0220 EA 1-1/2 HP Motor Mounting.....	256.23	122.99
23 05 13 00-0221 EA 2 HP Motor Mounting.....	277.00	147.59
23 05 13 00-0222 EA 3 HP Motor Mounting.....	320.29	147.59
23 05 13 00-0223 EA 5 HP Motor Mounting.....	379.61	245.99
23 05 13 00-0224 EA 7-1/2 HP Motor Mounting.....	488.06	245.99
23 05 13 00-0225 EA 10 HP Motor Mounting.....	640.59	430.47
23 05 13 00-0226 EA 15 HP Motor Mounting.....	788.41	430.47
23 05 13 00-0227 EA 20 HP Motor Mounting.....	931.75	614.96
23 05 13 00-0228 EA 25 HP Motor Mounting.....	1,056.63	614.96
23 05 13 00-0229 EA 30 HP Motor Mounting.....	1,281.16	614.96
23 05 13 00-0230 EA 40 HP Motor Mounting.....	1,443.56	922.44
23 05 13 00-0231 EA 50 HP Motor Mounting.....	1,601.45	922.44
23 05 13 00-0232 EA 75 HP Motor Mounting.....	1,933.83	1,352.91
23 05 13 00-0233 EA 100 HP Motor Mounting.....	2,329.38	1,352.91
23 05 13 00-0234 EA 125 HP Motor Mounting.....	2,847.02	1,844.87
23 05 13 00-0235 EA 150 HP Motor Mounting.....	3,306.22	1,844.87
23 05 13 00-0236 EA 200 HP Motor Mounting.....	3,796.04	2,213.84
23 05 13 00-0237 Motor Couplings (23 05 13)		
23 05 13 00-0238 EA 5 To 15 HP, MGD Coupling (MagnaDrive MGE-07).....	5,060.63	67.75
23 05 13 00-0239 EA >15 To 50 HP, MGD Coupling (MagnaDrive MGE-1).....	6,588.21	101.64
23 05 13 00-0240 EA >50 To 100 HP, MGD Coupling (MagnaDrive MGE-15).....	11,484.97	135.52
23 05 16 Expansion Fittings and Loops for HVAC Piping (23 05)		
23 05 16 00-0001 Stainless Steel Bellows Type Expansion Joints (23 05 16)		
Note: Includes internal sleeves and external covers.		
23 05 16 00-0002 Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joints (23 05 16 00-0001)		
Note: Carbon steel ends. Includes internal sleeves and external covers.		
23 05 16 00-0003 EA 1/2" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	266.20	89.84
For 300 LB Rating, Add	21.61	
23 05 16 00-0004 EA 3/4" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	297.17	101.32
For 300 LB Rating, Add	23.67	
23 05 16 00-0005 EA 1" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	355.65	116.14
For 300 LB Rating, Add	30.86	
23 05 16 00-0006 EA 1-1/4" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	407.12	129.64
For 300 LB Rating, Add	37.04	
23 05 16 00-0007 EA 1-1/2" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	443.17	139.33
For 300 LB Rating, Add	41.13	
23 05 16 00-0008 EA 2" Threaded, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	500.57	163.96
For 300 LB Rating, Add	43.18	
23 05 16 00-0009 Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joints (23 05 16 00-0001)		
Note: Carbon steel ends. Includes internal sleeves and external covers.		
23 05 16 00-0010 EA 1-1/4" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	551.83	89.83
For 300 LB Rating, Add	110.06	
23 05 16 00-0011 EA 1-1/2" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	604.10	107.80
For 300 LB Rating, Add	117.26	
23 05 16 00-0012 EA 2" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	640.22	136.85
For 300 LB Rating, Add	117.28	
23 05 16 00-0013 EA 2-1/2" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	690.52	148.87
For 300 LB Rating, Add	125.97	
23 05 16 00-0014 EA 3" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	762.91	174.53
For 300 LB Rating, Add	136.12	
23 05 16 00-0015 EA 4" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	953.97	292.59
For 300 LB Rating, Add	146.83	
23 05 16 00-0016 EA 5" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	1,275.05	319.99
For 300 LB Rating, Add	218.92	
23 05 16 00-0017 EA 6" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	1,195.96	355.55
For 300 LB Rating, Add	187.49	
23 05 16 00-0018 EA 8" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	1,536.42	454.31
For 300 LB Rating, Add	243.02	
23 05 16 00-0019 EA 10" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	1,948.74	553.07
For 300 LB Rating, Add	314.35	
23 05 16 00-0020 EA 12" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint.....	2,544.55	418.95
For 300 LB Rating, Add	426.39	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 16 00-0021	EA	14" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	3,222.69 558.77	790.10
23 05 16 00-0022	EA	16" Flanged, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	4,124.67 759.57	869.11
23 05 16 00-0023		Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joints (23 05 16 00-0001) Note: Carbon steel ends. Includes internal sleeves and external covers.		
23 05 16 00-0024	EA	1-1/4" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	599.90 88.40	123.20
23 05 16 00-0025	EA	1-1/2" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	625.18 94.18	124.22
23 05 16 00-0026	EA	2" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	633.70 94.20	128.33
23 05 16 00-0027	EA	2-1/2" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	684.89 101.18	139.93
23 05 16 00-0028	EA	3" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	767.69 109.56	164.56
23 05 16 00-0029	EA	4" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	1,126.46 117.93	327.70
23 05 16 00-0030	EA	5" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	1,370.65 175.83	334.51
23 05 16 00-0031	EA	6" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	1,342.53 150.59	370.36
23 05 16 00-0032	EA	8" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	1,625.91 195.19	423.20
23 05 16 00-0033	EA	10" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	2,044.88 252.49	518.50
23 05 16 00-0034	EA	12" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	2,626.86 342.47	628.52
23 05 16 00-0035	EA	14" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	3,144.95 466.18	639.99
23 05 16 00-0036	EA	16" Butt Weld, 150 LB, Stainless Steel Bellows Type Expansion Joint <i>For 300 LB Rating, Add</i>	4,135.14 633.71	799.97
23 05 16 00-0037		Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joints (23 05 16)		
23 05 16 00-0038		Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joints (23 05 16 00-0037)		
23 05 16 00-0039	EA	2" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	798.07	136.85
23 05 16 00-0040	EA	2-1/2" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint	880.08	148.87
23 05 16 00-0041	EA	3" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	946.13	174.53
23 05 16 00-0042	EA	4" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	1,151.60	292.59
23 05 16 00-0043	EA	5" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	1,569.71	319.99
23 05 16 00-0044	EA	6" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	1,448.32	355.55
23 05 16 00-0045	EA	8" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	1,863.52	454.31
23 05 16 00-0046	EA	10" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	2,371.87	553.07
23 05 16 00-0047	EA	12" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	3,118.47	419.45
23 05 16 00-0048	EA	14" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	3,974.80	790.10
23 05 16 00-0049	EA	16" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	5,147.08	869.11
23 05 16 00-0050	EA	18" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	6,735.89	963.92
23 05 16 00-0051	EA	20" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	7,849.30	1,086.39
23 05 16 00-0052	EA	24" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	9,031.57	1,333.30
23 05 16 00-0053	EA	30" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	11,740.22	2,172.77
23 05 16 00-0054	EA	36" Flanged, 150 LB, Ethylene Propylene Diene Monomer (EPDM) Bellows Type Expansion Joint.....	15,032.60	2,897.04
23 05 16 00-0055		Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joints (23 05 16)		
23 05 16 00-0056		Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joints (23 05 16 00-0055)		
23 05 16 00-0057	EA	2" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	1,500.54	136.85
23 05 16 00-0058	EA	2-1/2" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint	1,614.58	148.87
23 05 16 00-0059	EA	3" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	1,761.46	174.53
23 05 16 00-0060	EA	4" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	2,031.06	292.59
23 05 16 00-0061	EA	5" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	2,880.97	319.99
23 05 16 00-0062	EA	6" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	2,571.31	355.55
23 05 16 00-0063	EA	8" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	3,319.13	454.31
23 05 16 00-0064	EA	10" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	4,254.78	553.07
23 05 16 00-0065	EA	12" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	5,672.43	419.45
23 05 16 00-0066	EA	14" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	7,321.68	790.10
23 05 16 00-0067	EA	16" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	9,696.73	869.11
23 05 16 00-0068	EA	18" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	12,932.89	963.92
23 05 16 00-0069	EA	20" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	15,122.26	1,086.39
23 05 16 00-0070	EA	24" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	17,283.37	1,333.30
23 05 16 00-0071	EA	30" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	21,851.13	2,172.77
23 05 16 00-0072	EA	36" Flanged, 150 LB, Chlorobutyl Rubber (CIIR) And Polyester Bellows Type Expansion Joint.....	27,818.00	2,897.04

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 16 Expansion Fittings and Loops for HVAC Piping**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 16 00-0073	Neoprene Bellows Type Expansion Joints ^(23 05 16)		
23 05 16 00-0074	Flanged, 150 LB, Neoprene Bellows Type Expansion Joints ^(23 05 16 00-0073)		
	Note: Cast iron ends.		
23 05 16 00-0075	EA	2" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	1,000.01 136.85
23 05 16 00-0076	EA	2-1/2" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	1,061.61 148.87
23 05 16 00-0077	EA	3" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	1,104.89 174.53
23 05 16 00-0078	EA	4" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	1,356.74 292.59
23 05 16 00-0079	EA	5" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	1,608.19 319.99
23 05 16 00-0080	EA	6" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	1,674.02 355.55
23 05 16 00-0081	EA	8" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	2,022.61 454.31
23 05 16 00-0082	EA	10" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	2,264.71 553.07
23 05 16 00-0083	EA	12" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	2,527.50 419.24
23 05 16 00-0084	EA	14" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	3,232.57 790.10
23 05 16 00-0085	EA	16" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	4,137.20 869.11
23 05 16 00-0086	EA	18" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	5,349.40 963.92
23 05 16 00-0087	EA	20" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	6,250.80 1,086.39
23 05 16 00-0088	EA	24" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	7,211.81 1,333.30
23 05 16 00-0089	EA	30" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	9,489.17 2,172.77
23 05 16 00-0090	EA	36" Flanged, 150 LB, Neoprene Bellows Type Expansion Joint	12,198.11 2,897.04
23 05 16 00-0091	Tube And Cover Expansion Joints ^(23 05 16)		
	Note: Carbon steel split backup rings.		
23 05 16 00-0092	Flanged, 150 LB, Tube And Cover Expansion Joints ^(23 05 16 00-0091)		
23 05 16 00-0093	Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joints ^(23 05 16 00-0092)		
23 05 16 00-0094	EA	1" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	445.08 77.00
23 05 16 00-0095	EA	1-1/4" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	425.97 89.83
23 05 16 00-0096	EA	1-1/2" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	507.68 107.80
23 05 16 00-0097	EA	2" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	590.28 136.85
23 05 16 00-0098	EA	2-1/2" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	664.05 148.87
23 05 16 00-0099	EA	3" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	749.48 189.50
23 05 16 00-0100	EA	4" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	991.91 317.68
23 05 16 00-0101	EA	5" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	1,102.78 361.15
23 05 16 00-0102	EA	6" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	1,226.14 355.55
23 05 16 00-0103	EA	8" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	1,588.04 404.15
23 05 16 00-0104	EA	10" x 6" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	2,356.36 553.07
23 05 16 00-0105	EA	12" x 8" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	2,980.40 671.59
23 05 16 00-0106	EA	14" x 8" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	3,339.64 790.10
23 05 16 00-0107	EA	16" x 8" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	3,729.49 869.11
23 05 16 00-0108	EA	18" x 8" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	4,057.58 963.92
23 05 16 00-0109	EA	20" x 8" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	4,874.36 1,086.39
23 05 16 00-0110	EA	24" x 10" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	5,916.53 1,333.30
23 05 16 00-0111	EA	30" x 10" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	8,467.92 2,172.77
23 05 16 00-0112	EA	36" x 10" Flanged, 150 LB, Butyl, Ethylene Propylene Diene Monomer (EPDM), Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 451)	10,165.00 2,897.04
23 05 16 00-0113	Flanged, 150 LB, Rubber Tube And Cover Expansion Joints ^(23 05 16 00-0092)		
23 05 16 00-0114	EA	1" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	421.79 77.00
23 05 16 00-0115	EA	1-1/4" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	402.68 89.83
23 05 16 00-0116	EA	1-1/2" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	484.39 107.80
23 05 16 00-0117	EA	2" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	566.99 136.85
23 05 16 00-0118	EA	2-1/2" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	640.76 148.87
23 05 16 00-0119	EA	3" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	726.19 189.50
23 05 16 00-0120	EA	4" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	956.98 317.68
23 05 16 00-0121	EA	5" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	1,067.85 361.15
23 05 16 00-0122	EA	6" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	1,191.21 355.55
23 05 16 00-0123	EA	8" x 6" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	1,589.00 454.31
23 05 16 00-0124	EA	10" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	2,228.29 553.07
23 05 16 00-0125	EA	12" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	2,863.97 671.59
23 05 16 00-0126	EA	14" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451)	3,211.56 790.10



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 16 00-0127 EA 16" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	3,601.41	869.11
23 05 16 00-0128 EA 18" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	3,917.86	963.92
23 05 16 00-0129 EA 20" x 8" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	4,711.35	1,086.39
23 05 16 00-0130 EA 24" x 10" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	5,718.59	1,333.30
23 05 16 00-0131 EA 30" x 10" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	7,897.38	2,172.77
23 05 16 00-0132 EA 36" x 10" Flanged, 150 LB, Rubber Tube And Cover Expansion Joint (Mercer 451).....	9,838.98	2,897.04
23 05 16 00-0133 Flanged, 125 LB, Buna-N Tube And Cover Expansion Joints (23 05 16 00-0092)		
23 05 16 00-0134 EA 2" x 6" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	578.64	136.85
23 05 16 00-0135 EA 3" x 6" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	717.46	189.50
23 05 16 00-0136 EA 4" x 6" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	945.34	317.68
23 05 16 00-0137 EA 6" x 6" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	1,092.24	355.55
23 05 16 00-0138 EA 8" x 6" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	1,356.12	454.31
23 05 16 00-0139 EA 10" x 8" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	1,681.04	553.07
23 05 16 00-0140 EA 12" x 8" Flanged, 125 LB, Buna-N Tube And Cover Expansion Joint (Mercer 451).....	2,008.16	671.59
23 05 16 00-0141 Flanged, Tube And Cover Expansion Joints (Mercer 501) (23 05 16 00-0091)		
23 05 16 00-0142 Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joints (501EE) (23 05 16 00-0141)		
23 05 16 00-0143 EA 1-1/2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	856.98	107.80
23 05 16 00-0144 EA 2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	951.23	136.85
23 05 16 00-0145 EA 2-1/2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	990.07	148.87
23 05 16 00-0146 EA 3" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	1,122.07	189.50
23 05 16 00-0147 EA 4" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	1,422.73	317.68
23 05 16 00-0148 EA 5" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	1,568.53	361.15
23 05 16 00-0149 EA 6" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	1,668.60	355.55
23 05 16 00-0150 EA 8" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	2,229.39	454.31
23 05 16 00-0151 EA 10" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	2,752.25	553.07
23 05 16 00-0152 EA 12" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	3,178.34	671.59
23 05 16 00-0153 EA 14" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	3,642.37	790.10
23 05 16 00-0154 EA 16" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	3,974.00	869.11
23 05 16 00-0155 EA 18" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	4,348.67	963.92
23 05 16 00-0156 EA 20" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	5,107.23	1,086.39
23 05 16 00-0157 EA 24" x 10" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	6,265.84	1,333.30
23 05 16 00-0158 EA 30" x 10" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	9,038.45	2,172.77
23 05 16 00-0159 EA 36" x 10" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	11,212.93	2,897.04
23 05 16 00-0160 EA 42" x 12" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	14,653.67	4,345.56
23 05 16 00-0161 EA 48" x 12" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	17,373.96	5,431.94
23 05 16 00-0162 EA 60" x 12" Flanged, Ethylene Propylene Diene Monomer (EPDM) Tube And Cover Expansion Joint (Mercer 501EE).....	23,156.00	7,822.00
23 05 16 00-0163 Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 501RR) (23 05 16 00-0141)		
23 05 16 00-0164 EA 1-1/2" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	810.41	107.80
23 05 16 00-0165 EA 2" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	893.01	136.85
23 05 16 00-0166 EA 2-1/2" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	931.85	148.87
23 05 16 00-0167 EA 3" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	1,052.21	189.50
23 05 16 00-0168 EA 4" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	1,341.22	317.68
23 05 16 00-0169 EA 5" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	1,487.02	361.15
23 05 16 00-0170 EA 6" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	1,575.45	355.55
23 05 16 00-0171 EA 8" x 6" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	2,101.32	454.31
23 05 16 00-0172 EA 10" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	2,600.88	553.07
23 05 16 00-0173 EA 12" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	3,003.69	671.59
23 05 16 00-0174 EA 14" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	3,444.43	790.10
23 05 16 00-0175 EA 16" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	3,764.42	869.11
23 05 16 00-0176 EA 18" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	4,104.16	963.92
23 05 16 00-0177 EA 20" x 8" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	4,827.78	1,086.39
23 05 16 00-0178 EA 24" x 10" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	5,928.18	1,333.30
23 05 16 00-0179 EA 30" x 10" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	8,561.07	2,172.77
23 05 16 00-0180 EA 36" x 10" Flanged, Natural Rubber Tube And Cover Expansion Joint (Mercer 501RR).....	10,642.39	2,897.04
23 05 16 00-0181 Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501) (23 05 16 00-0141)		
Note: 501BB, 501NN or 501NNi.		
23 05 16 00-0182 EA 1-1/2" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	856.98	107.80
23 05 16 00-0183 EA 2" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	962.87	136.85
23 05 16 00-0184 EA 2-1/2" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	990.07	148.87
23 05 16 00-0185 EA 3" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	1,122.07	189.50
23 05 16 00-0186 EA 4" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501).....	1,422.73	317.68

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 16 Expansion Fittings and Loops for HVAC Piping**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 16 00-0187 EA 5" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	1,568.53	361.15
23 05 16 00-0188 EA 6" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	1,680.24	355.55
23 05 16 00-0189 EA 8" x 6" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	2,229.39	454.31
23 05 16 00-0190 EA 10" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	2,752.25	553.07
23 05 16 00-0191 EA 12" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	3,178.34	671.59
23 05 16 00-0192 EA 14" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	3,642.37	790.10
23 05 16 00-0193 EA 16" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	3,974.00	869.11
23 05 16 00-0194 EA 18" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	4,348.67	963.92
23 05 16 00-0195 EA 20" x 8" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	5,107.23	1,086.39
23 05 16 00-0196 EA 24" x 10" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	6,265.84	1,333.30
23 05 16 00-0197 EA 30" x 10" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	9,038.45	2,172.77
23 05 16 00-0198 EA 36" x 10" Flanged, Butyl, Neoprene Or Nitrile Tube And Cover Expansion Joint (Mercer 501)	11,212.93	2,897.04

23 05 16 00-0199 Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joints (Mercer 501NNFA) (23 05 16 00-0141)

23 05 16 00-0200 EA 1-1/2" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	891.91	107.80
23 05 16 00-0201 EA 2" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	986.16	136.85
23 05 16 00-0202 EA 2-1/2" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	1,025.00	148.87
23 05 16 00-0203 EA 3" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	1,168.65	189.50
23 05 16 00-0204 EA 4" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	1,480.94	317.68
23 05 16 00-0205 EA 5" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	1,626.74	361.15
23 05 16 00-0206 EA 6" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	1,738.46	355.55
23 05 16 00-0207 EA 8" x 6" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	2,310.90	454.31
23 05 16 00-0208 EA 10" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	2,857.04	553.07
23 05 16 00-0209 EA 12" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	3,306.42	671.59
23 05 16 00-0210 EA 14" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	3,770.45	790.10
23 05 16 00-0211 EA 16" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	4,125.37	869.11
23 05 16 00-0212 EA 18" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	4,500.04	963.92
23 05 16 00-0213 EA 20" x 8" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	5,293.53	1,086.39
23 05 16 00-0214 EA 24" x 10" Flanged, Neoprene Tube And Cover, Filled Arch Expansion Joint (Mercer 501NNFA)	6,510.36	1,333.30

23 05 16 00-0215 Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E) (23 05 16 00-0141)

Note: Kevlar reinforcement for high temperature.

23 05 16 00-0216 EA 1-1/2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	1,113.14	107.80
23 05 16 00-0217 EA 2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	1,172.46	136.85
23 05 16 00-0218 EA 2-1/2" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	1,269.51	148.87
23 05 16 00-0219 EA 3" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	1,366.59	189.50
23 05 16 00-0220 EA 4" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	1,876.83	317.68
23 05 16 00-0221 EA 5" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	2,045.91	361.15
23 05 16 00-0222 EA 6" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	2,111.05	355.55
23 05 16 00-0223 EA 8" x 6" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	2,497.20	454.31
23 05 16 00-0224 EA 10" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	2,961.83	553.07
23 05 16 00-0225 EA 12" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	3,585.87	671.59
23 05 16 00-0226 EA 14" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	4,236.19	790.10
23 05 16 00-0227 EA 16" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	4,940.42	869.11
23 05 16 00-0228 EA 18" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	5,489.74	963.92
23 05 16 00-0229 EA 20" x 8" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	6,481.17	1,086.39
23 05 16 00-0230 EA 24" x 10" Flanged, Ethylene Propylene Diene Monomer (EPDM), Kevlar Reinforced Tube And Cover Expansion Joint (Mercer HT501K-E)	8,454.84	1,333.30

23 05 16 00-0231 Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 800) (23 05 16 00-0091)
23 05 16 00-0232 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802) (23 05 16 00-0231)

23 05 16 00-0233 EA 1" x 1-3/8" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	514.94	77.00
23 05 16 00-0234 EA 1-1/2" x 1-3/8" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	584.46	82.65
23 05 16 00-0235 EA 2" x 1-5/8" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	788.22	85.52
23 05 16 00-0236 EA 2-1/2" x 2-1/4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	1,013.54	93.42
23 05 16 00-0237 EA 3" x 2-1/4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	1,372.26	185.48
23 05 16 00-0238 EA 4" x 2-5/8" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	1,849.23	237.65
23 05 16 00-0239 EA 5" x 3-1/4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	2,253.25	259.16
23 05 16 00-0240 EA 6" x 2-3/4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	2,508.15	246.90
23 05 16 00-0241 EA 8" x 4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	3,463.62	282.16



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 16 00-0242	EA		10" x 5-1/4" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	4,490.30	335.60
23 05 16 00-0243	EA		12" x 6" 2 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 802)	6,231.43	420.23
23 05 16 00-0244			3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803) (23 05 16 00-0231)		
23 05 16 00-0245	EA		1" x 1-3/4" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	573.16	77.00
23 05 16 00-0246	EA		1-1/2" x 2" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	642.66	82.65
23 05 16 00-0247	EA		2" x 2-3/4" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	881.37	85.52
23 05 16 00-0248	EA		2-1/2" x 3-1/4" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	1,141.62	93.42
23 05 16 00-0249	EA		3" x 3-5/8" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	1,511.98	185.48
23 05 16 00-0250	EA		4" x 3-5/8" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	2,058.82	237.65
23 05 16 00-0251	EA		5" x 4" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	2,509.41	259.16
23 05 16 00-0252	EA		6" x 4" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	2,822.53	246.90
23 05 16 00-0253	EA		8" x 6" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	3,894.43	282.16
23 05 16 00-0254	EA		10" x 6" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	5,060.84	335.60
23 05 16 00-0255	EA		12" x 7" 3 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 803)	7,034.84	420.23
23 05 16 00-0256			5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805) (23 05 16 00-0231)		
23 05 16 00-0257	EA		1" x 3" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	631.38	77.00
23 05 16 00-0258	EA		1-1/2" x 3-1/2" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	805.69	82.65
23 05 16 00-0259	EA		2" x 4" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	1,032.74	85.52
23 05 16 00-0260	EA		2-1/2" x 4" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	1,374.49	93.42
23 05 16 00-0261	EA		3" x 5" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	1,838.00	185.48
23 05 16 00-0262	EA		4" x 5-1/4" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	2,373.20	237.65
23 05 16 00-0263	EA		5" x 6" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	3,126.52	259.16
23 05 16 00-0264	EA		6" x 6" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	3,346.49	246.90
23 05 16 00-0265	EA		8" x 8" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	5,070.43	282.16
23 05 16 00-0266	EA		10" x 8" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	6,749.16	335.60
23 05 16 00-0267	EA		12" x 9" 5 Arch, Polytetrafluoroethylene (PTFE) Teflon Expansion Joints (Mercer 805)	8,443.71	420.23
23 05 16 00-0268			Mercer Rubber, Series 450 (23 05 16 00-0091)		
23 05 16 00-0269			Expansion Joints, 2 Arch (452) (23 05 16 00-0266)		
23 05 16 00-0270	EA		1-1/2" x 12" Expansion Joints, 2 Arch	633.94	82.65
23 05 16 00-0271	EA		2" x 12" Expansion Joints, 2 Arch	709.63	85.52
23 05 16 00-0272	EA		2-1/2" x 12" Expansion Joints, 2 Arch	786.49	93.42
23 05 16 00-0273	EA		3" x 12" Expansion Joints, 2 Arch	1,049.15	185.48
23 05 16 00-0274	EA		4" x 12" Expansion Joints, 2 Arch	1,200.10	237.65
23 05 16 00-0275	EA		6" x 12" Expansion Joints, 2 Arch	1,337.97	246.90
23 05 16 00-0276	EA		8" x 12" Expansion Joints, 2 Arch	1,501.67	282.16
23 05 16 00-0277	EA		10" x 14" Expansion Joints, 2 Arch	2,027.68	335.60
23 05 16 00-0278	EA		12" x 14" Expansion Joints, 2 Arch	2,383.82	420.54
23 05 16 00-0279	EA		14" x 14" Expansion Joints, 2 Arch	2,788.63	426.46
23 05 16 00-0280	EA		16" x 14" Expansion Joints, 2 Arch	3,363.21	531.84
23 05 16 00-0281	EA		18" x 14" Expansion Joints, 2 Arch	3,753.99	603.44
23 05 16 00-0282	EA		20" x 14" Expansion Joints, 2 Arch	4,254.58	679.09
23 05 16 00-0283	EA		24" x 16" Expansion Joints, 2 Arch	5,087.79	833.76
23 05 16 00-0284			Mercer Rubber, Series 502 And 701 (23 05 16 00-0091)		
23 05 16 00-0285			2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR) (23 05 16 00-0284) Note: Baked enamel, coated ductile iron backup rings.		
23 05 16 00-0286	EA		1-1/2" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,019.99	108.06
23 05 16 00-0287	EA		2" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,079.31	136.89
23 05 16 00-0288	EA		2-1/2" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,153.08	149.33
23 05 16 00-0289	EA		3" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,226.87	189.73
23 05 16 00-0290	EA		4" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,562.45	318.48
23 05 16 00-0291	EA		5" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,847.97	360.59
23 05 16 00-0292	EA		6" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	1,913.11	356.82
23 05 16 00-0293	EA		8" x 10" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	2,275.97	454.31
23 05 16 00-0294	EA		10" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	2,670.74	553.07
23 05 16 00-0295	EA		12" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	3,110.94	420.23
23 05 16 00-0296	EA		14" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	3,840.31	790.10
23 05 16 00-0297	EA		16" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	4,474.68	869.11
23 05 16 00-0298	EA		18" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	4,954.14	963.92
23 05 16 00-0299	EA		20" x 12" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	5,619.55	1,086.39
23 05 16 00-0300	EA		24" x 14" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	6,696.66	1,333.30
23 05 16 00-0301	EA		30" x 14" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	9,865.15	2,172.77
23 05 16 00-0302	EA		36" x 14" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	12,354.00	2,897.04
23 05 16 00-0303	EA		42" x 16" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	16,446.79	4,345.56
23 05 16 00-0304	EA		48" x 16" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	19,411.59	5,431.94
23 05 16 00-0305	EA		60" x 16" 2 Arch, Flanged, Natural Rubber Tube And Cover Expansion Joints (Mercer 502RR)	26,311.41	7,822.00

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 16 Expansion Fittings and Loops for HVAC Piping**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST**23 05 16 00-0306 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)** (23 05 16 00-0284)

Note: Butyl 502B, Neoprene 502N. Baked enamel, coated ductile iron backup rings.

23 05 16 00-0307	EA	1-1/2" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,113.14	108.06
23 05 16 00-0308	EA	2" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,172.46	136.89
23 05 16 00-0309	EA	2-1/2" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,257.87	149.33
23 05 16 00-0310	EA	3" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,331.66	189.73
23 05 16 00-0311	EA	4" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,655.60	318.48
23 05 16 00-0312	EA	5" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	1,987.70	360.59
23 05 16 00-0313	EA	6" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	2,029.55	356.82
23 05 16 00-0314	EA	8" x 10" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	2,450.62	454.31
23 05 16 00-0315	EA	10" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	2,857.04	553.07
23 05 16 00-0316	EA	12" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	3,308.88	420.23
23 05 16 00-0317	EA	14" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	4,108.11	790.10
23 05 16 00-0318	EA	16" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	4,789.05	869.11
23 05 16 00-0319	EA	18" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	5,303.45	963.92
23 05 16 00-0320	EA	20" x 12" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	6,015.43	1,086.39
23 05 16 00-0321	EA	24" x 14" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	7,162.40	1,333.30
23 05 16 00-0322	EA	30" x 14" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	10,552.12	2,172.77
23 05 16 00-0323	EA	36" x 14" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	13,169.05	2,897.04
23 05 16 00-0324	EA	42" x 16" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	17,494.71	4,345.56
23 05 16 00-0325	EA	48" x 16" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	20,622.53	5,431.94
23 05 16 00-0326	EA	60" x 16" 2 Arch, Flanged, Butyl Or Neoprene Tube And Cover Expansion Joints (Mercer 502B or 502N)	27,964.80	7,822.00

23 05 16 00-0327 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joints (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN) (23 05 16 00-0284)

Note: Nitrile 502Ni, Nitrile/Neoprene 502NiN, Ethylene Propylene Diene Monomer (EPDM) 502E, Neoprene/Natural Or Natural/Neoprene 502RN. Baked enamel, coated ductile iron backup rings.

23 05 16 00-0328	EA	1-1/2" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	1,148.07	108.06
23 05 16 00-0329	EA	2" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	1,242.32	136.89
23 05 16 00-0330	EA	2-1/2" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	1,316.09	149.33
23 05 16 00-0331	EA	3" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	1,401.52	189.73
23 05 16 00-0332	EA	4" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	1,748.75	318.48
23 05 16 00-0333	EA	5" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	2,057.56	360.59
23 05 16 00-0334	EA	6" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	2,145.99	356.82
23 05 16 00-0335	EA	8" x 10" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	2,543.77	454.31
23 05 16 00-0336	EA	10" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	2,973.48	553.07
23 05 16 00-0337	EA	12" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	3,448.61	420.23
23 05 16 00-0338	EA	14" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	4,247.84	790.10
23 05 16 00-0339	EA	16" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	4,975.35	869.11
23 05 16 00-0340	EA	18" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	5,513.03	963.92
23 05 16 00-0341	EA	20" x 12" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	6,294.88	1,086.39
23 05 16 00-0342	EA	24" x 14" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	7,418.56	1,333.30
23 05 16 00-0343	EA	30" x 14" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	10,587.05	2,172.77
23 05 16 00-0344	EA	36" x 14" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NiN, 502E, 502NR or 502RN)	13,634.80	2,897.04



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 16 00-0345	EA	42" x 16" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NIN, 502E, 502NR or 502RN)	18,146.75	4,345.56
23 05 16 00-0346	EA	48" x 16" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NIN, 502E, 502NR or 502RN)	21,344.43	5,431.94
23 05 16 00-0347	EA	60" x 16" 2 Arch, Flanged, Nitrile, Nitrile/Neoprene, Ethylene Propylene Diene Monomer (EPDM), Neoprene/Natural Or Natural/Neoprene Tube And Cover Expansion Joint Tube And Cover Expansion Joint (Mercer 502Ni, 502NIN, 502E, 502NR or 502RN)	28,942.87	7,822.00
23 05 16 00-0348		2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joints (Mercer 502H, 502HN Or 502NH) (23 05 16 00-0284) Note: Hypalon 502H, Hypalon/Neoprene 502HN Or Neoprene/Hypalon 502NH. Baked enamel, coated ductile iron backup rings.		
23 05 16 00-0349	EA	1-1/2" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	1,206.29	108.06
23 05 16 00-0350	EA	2" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	1,265.61	136.89
23 05 16 00-0351	EA	2-1/2" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	1,351.02	149.33
23 05 16 00-0352	EA	3" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	1,459.74	189.73
23 05 16 00-0353	EA	4" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	1,795.32	318.48
23 05 16 00-0354	EA	5" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	2,150.71	360.59
23 05 16 00-0355	EA	6" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	2,239.13	356.82
23 05 16 00-0356	EA	8" x 10" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	2,636.92	454.31
23 05 16 00-0357	EA	10" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	3,089.91	553.07
23 05 16 00-0358	EA	12" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	3,611.62	420.23
23 05 16 00-0359	EA	14" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	4,410.85	790.10
23 05 16 00-0360	EA	16" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	5,184.94	869.11
23 05 16 00-0361	EA	18" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	5,745.90	963.92
23 05 16 00-0362	EA	20" x 12" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	6,551.04	1,086.39
23 05 16 00-0363	EA	24" x 14" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	7,686.36	1,333.30
23 05 16 00-0364	EA	30" x 14" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	11,355.53	2,172.77
23 05 16 00-0365	EA	36" x 14" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	14,193.69	2,897.04
23 05 16 00-0366	EA	42" x 16" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	18,798.79	4,345.56
23 05 16 00-0367	EA	48" x 16" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	21,903.32	5,431.94
23 05 16 00-0368	EA	60" x 16" 2 Arch, Flanged, Hypalon, Hypalon/Neoprene, Neoprene/Hypalon Tube And Cover Expansion Joint (Mercer 502H, 502HN Or 502NH)	29,688.06	7,822.00
23 05 16 00-0369		2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V) (23 05 16 00-0284) Note: Baked enamel, coated ductile iron backup rings.		
23 05 16 00-0370	EA	1-1/2" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	1,509.02	108.06
23 05 16 00-0371	EA	2" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	1,638.20	136.89
23 05 16 00-0372	EA	2-1/2" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	1,746.90	149.33
23 05 16 00-0373	EA	3" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	2,321.36	189.73
23 05 16 00-0374	EA	4" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	3,029.54	318.48
23 05 16 00-0375	EA	5" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	3,710.95	360.59
23 05 16 00-0376	EA	6" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	4,032.25	356.82
23 05 16 00-0377	EA	8" x 10" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	5,198.51	454.31
23 05 16 00-0378	EA	10" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	6,885.73	553.07
23 05 16 00-0379	EA	12" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	7,873.17	420.23
23 05 16 00-0380	EA	14" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	9,056.64	790.10
23 05 16 00-0381	EA	16" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	11,099.89	869.11
23 05 16 00-0382	EA	18" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	12,312.89	963.92
23 05 16 00-0383	EA	20" x 12" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	14,468.68	1,086.39
23 05 16 00-0384	EA	24" x 14" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	18,992.30	1,333.30
23 05 16 00-0385	EA	30" x 14" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	31,824.98	2,172.77
23 05 16 00-0386	EA	36" x 14" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	39,949.33	2,897.04
23 05 16 00-0387	EA	42" x 16" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	52,239.21	4,345.56
23 05 16 00-0388	EA	48" x 16" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	61,049.11	5,431.94
23 05 16 00-0389	EA	60" x 16" 2 Arch, Flanged, Viton Tube And Cover Expansion Joint (Mercer 502V)	80,803.46	7,822.00

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 16 Expansion Fittings and Loops for HVAC Piping**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT
UNIT COST
DEMOLITION
UNIT COST

23 05 16 00-0390 Teflon Lined Expansion Joints (Mercer 701) (23 05 16 00-0284)			
Note: Natural rubber, neoprene, butyl, ethylene propylene diene monomer (EPDM) Or nitrile. Includes baked enamel coated ductile iron backer rings. Series 701.			
23 05 16 00-0391	EA 1-1/2" Teflon Lined Expansion Joint (Mercer 701).....	997.79	82.65
	For Hypalon Tube And Cover, Add	16.65	
	For Viton Tube And Cover, Add	832.52	
23 05 16 00-0392	EA 2" Teflon Lined Expansion Joint (Mercer 701).....	1,166.64	85.52
	For Hypalon Tube And Cover, Add	19.91	
	For Viton Tube And Cover, Add	995.53	
23 05 16 00-0393	EA 2-1/2" Teflon Lined Expansion Joint (Mercer 701).....	1,330.78	93.42
	For Hypalon Tube And Cover, Add	22.88	
	For Viton Tube And Cover, Add	1,143.98	
23 05 16 00-0394	EA 3" Teflon Lined Expansion Joint (Mercer 701).....	1,640.20	185.48
	For Hypalon Tube And Cover, Add	25.38	
	For Viton Tube And Cover, Add	1,269.15	
23 05 16 00-0395	EA 4" Teflon Lined Expansion Joint (Mercer 701).....	2,012.50	237.76
	For Hypalon Tube And Cover, Add	30.74	
	For Viton Tube And Cover, Add	1,536.96	
23 05 16 00-0396	EA 5" Teflon Lined Expansion Joint (Mercer 701).....	2,395.49	258.94
	For Hypalon Tube And Cover, Add	37.55	
	For Viton Tube And Cover, Add	1,877.53	
23 05 16 00-0397	EA 6" Teflon Lined Expansion Joint (Mercer 701).....	2,525.62	246.90
	For Hypalon Tube And Cover, Add	40.64	
	For Viton Tube And Cover, Add	2,031.81	
23 05 16 00-0398	EA 8" Teflon Lined Expansion Joint (Mercer 701).....	3,032.34	281.97
	For Hypalon Tube And Cover, Add	49.37	
	For Viton Tube And Cover, Add	2,468.44	
23 05 16 00-0399	EA 10" Teflon Lined Expansion Joint (Mercer 701).....	3,823.70	335.60
	For Hypalon Tube And Cover, Add	63.05	
	For Viton Tube And Cover, Add	3,152.50	
23 05 16 00-0400	EA 12" Teflon Lined Expansion Joint (Mercer 701).....	4,890.10	420.54
	For Hypalon Tube And Cover, Add	80.98	
	For Viton Tube And Cover, Add	4,049.06	
23 05 16 00-0401	EA 14" Teflon Lined Expansion Joint (Mercer 701).....	5,499.30	426.75
	For Hypalon Tube And Cover, Add	92.92	
	For Viton Tube And Cover, Add	4,645.80	
23 05 16 00-0402	EA 16" Teflon Lined Expansion Joint (Mercer 701).....	6,827.18	531.84
	For Hypalon Tube And Cover, Add	115.27	
	For Viton Tube And Cover, Add	5,763.58	
23 05 16 00-0403	EA 18" Teflon Lined Expansion Joint (Mercer 701).....	7,603.88	604.33
	For Hypalon Tube And Cover, Add	127.91	
	For Viton Tube And Cover, Add	6,395.25	
23 05 16 00-0404	EA 20" Teflon Lined Expansion Joint (Mercer 701).....	8,903.53	677.80
	For Hypalon Tube And Cover, Add	150.96	
	For Viton Tube And Cover, Add	7,547.96	
23 05 16 00-0405	EA 24" Teflon Lined Expansion Joint (Mercer 701).....	11,642.64	834.94
	For Hypalon Tube And Cover, Add	199.45	
	For Viton Tube And Cover, Add	9,972.74	

23 05 16 00-0406 Accessories For Mercer Rubber, Series 451 And 501 (23 05 16 00-0091)**23 05 16 00-0407 Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints** (23 05 16 00-0406)

23 05 16 00-0408	EA 1-1/2" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	44.25	
23 05 16 00-0409	EA 2" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	55.89	
23 05 16 00-0410	EA 2-1/2" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	62.88	
23 05 16 00-0411	EA 3" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	67.53	
23 05 16 00-0412	EA 4" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	100.14	
23 05 16 00-0413	EA 5" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	123.42	
23 05 16 00-0414	EA 6" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	135.07	
23 05 16 00-0415	EA 8" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	149.04	
23 05 16 00-0416	EA 10" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	190.96	
23 05 16 00-0417	EA 12" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	225.89	
23 05 16 00-0418	EA 14" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	302.73	
23 05 16 00-0419	EA 16" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	326.02	
23 05 16 00-0420	EA 18" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	349.31	
23 05 16 00-0421	EA 20" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	384.24	
23 05 16 00-0422	EA 24" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	477.39	
23 05 16 00-0423	EA 30" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	593.82	
23 05 16 00-0424	EA 36" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	721.90	
23 05 16 00-0425	EA 42" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	1,024.64	
23 05 16 00-0426	EA 48" Hot-Dipped Galvanized Back-Up Rings For Mercer 451 And 501 Expansion Joints.....	1,222.58	

23 05 16 00-0427 Control Rods For Mercer 451 And 501 Expansion Joints (23 05 16 00-0406)

23 05 16 00-0428	SET 1-1/2" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	242.07	
23 05 16 00-0429	SET 2" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	306.14	
23 05 16 00-0430	SET 2-1/2" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	355.98	
23 05 16 00-0431	SET 3" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	427.18	
23 05 16 00-0432	SET 4" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	427.18	
23 05 16 00-0433	SET 5" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	462.77	
23 05 16 00-0434	SET 6" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	533.97	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 16 00-0435	SET		8" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 2.....	783.16	
23 05 16 00-0436	SET		10" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 3.....	1,590.71	
23 05 16 00-0437	SET		12" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 3.....	2,100.28	
23 05 16 00-0438	SET		14" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 4.....	3,132.62	
23 05 16 00-0439	SET		16" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 4.....	3,524.20	
23 05 16 00-0440	SET		18" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 5.....	4,698.94	
23 05 16 00-0441	SET		20" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 5.....	5,019.32	
23 05 16 00-0442	SET		24" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 5.....	5,660.08	
23 05 16 00-0443	SET		30" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 5.....	8,294.33	
23 05 16 00-0444	SET		36" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 5.....	12,210.11	
23 05 16 00-0445	SET		42" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 3.....	8,258.74	
23 05 16 00-0446	SET		48" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 4.....	10,857.39	
23 05 16 00-0447	SET		60" Control Rods For Mercer 451 And 501 Expansion Joints, Set Of 4.....	16,944.65	

23 05 17 Sleeves and Sleeve Seals for HVAC Piping (23 05)

23 05 17 00-0001	Wall Seals And Sleeves (23 05 17)		Note: Up to 12" walls. Excludes drilling hole.		
23 05 17 00-0002	Ductile Iron Wall Sleeve (23 05 17 00-0001)		Note: Includes rubber gasket seal.		
23 05 17 00-0003	EA	3" Ductile Iron Wall Sleeve With Rubber Gasket Seal	125.16	48.84	
23 05 17 00-0004	EA	4" Ductile Iron Wall Sleeve With Rubber Gasket Seal	155.76	57.04	
23 05 17 00-0005	EA	6" Ductile Iron Wall Sleeve With Rubber Gasket Seal	190.94	68.44	
23 05 17 00-0006	EA	8" Ductile Iron Wall Sleeve With Rubber Gasket Seal	268.91	102.60	
23 05 17 00-0007	EA	10" Ductile Iron Wall Sleeve With Rubber Gasket Seal	343.88	136.77	
23 05 17 00-0008	EA	12" Ductile Iron Wall Sleeve With Rubber Gasket Seal	422.97	171.04	

23 05 17 00-0009	Steel Pipe Sleeves (23 05 17 00-0001)		Note: Includes link seals 12" length.		
23 05 17 00-0010	EA	2" Steel Pipe Sleeve With Link Seals.....	149.33	49.58	
23 05 17 00-0011	EA	2-1/2" Steel Pipe Sleeve With Link Seals	189.27	53.74	
23 05 17 00-0012	EA	3" Steel Pipe Sleeve With Link Seals	226.76	57.91	
23 05 17 00-0013	EA	4" Steel Pipe Sleeve With Link Seals.....	283.38	69.48	
23 05 17 00-0014	EA	6" Steel Pipe Sleeve With Link Seals.....	420.76	86.76	
23 05 17 00-0015	EA	10" Steel Pipe Sleeve With Link Seals.....	1,047.79	104.15	
23 05 17 00-0016	EA	13-1/4" Inside Diameter Steel Pipe Sleeve With Link Seals	1,266.07	130.20	
23 05 17 00-0017	EA	17-1/4" Inside Diameter Steel Pipe Sleeve With Link Seals	1,743.50	160.20	
23 05 17 00-0018	EA	23-1/4" Inside Diameter Steel Pipe Sleeve With Link Seals	2,480.04	208.32	
23 05 17 00-0019	EA	29-1/4" Inside Diameter Steel Pipe Sleeve With Link Seals	3,671.73	260.40	

23 05 19 Meters and Gages for HVAC Piping (23 05)

See CSI Section 33 19 00 00-0000 for water utility service metering.

23 05 19 00-0001	Thermometers (23 05 19)				
23 05 19 00-0002	Dial Type, Bi-Metal, 4" To 9" Stem, Steel Case, Brass Stem, Thermometers (23 05 19 00-0001)		Note: Various ranges.		
23 05 19 00-0003	EA	2" Diameter Dial, Bi-Metal, 4" To 9" Stem, Steel Case, Brass Stem, Thermometer	108.06	35.67	
23 05 19 00-0004	EA	2-1/2" Diameter Dial, Bi-Metal, 4" To 9" Stem, Steel Case, Brass Stem, Thermometer	126.42	35.67	
23 05 19 00-0005	EA	3-1/2" Diameter Dial, Bi-Metal, 4" To 9" Stem, Steel Case, Brass Stem, Thermometer	126.42	35.67	

23 05 19 00-0006	Liquid Filled Industrial Union Connection Type Thermometers (23 05 19 00-0001)		Note: Various ranges.		
23 05 19 00-0007	EA	7" Scale, Angle Stem, Liquid Filled Industrial Union Connection Type Thermometer.....	144.78	35.67	
23 05 19 00-0008	EA	9" Scale, Angle Stem, Liquid Filled Industrial Union Connection Type Thermometer.....	144.78	35.67	
23 05 19 00-0009	EA	12" Scale, Angle Stem, Liquid Filled Industrial Union Connection Type Thermometer	183.18	35.67	
23 05 19 00-0010	EA	7" Scale, Straight Stem, Liquid Filled Industrial Union Connection Type Thermometer	149.79	35.67	
23 05 19 00-0011	EA	9" Scale, Straight Stem, Liquid Filled Industrial Union Connection Type Thermometer	158.14	35.67	
23 05 19 00-0012	EA	12" Scale, Straight Stem, Liquid Filled Industrial Union Connection Type Thermometer	188.19	35.67	

23 05 19 00-0013	Liquid Filled Industrial Separable Socket Type Thermometers (23 05 19 00-0001)		Note: Various ranges. Socket connection for thermowell.		
23 05 19 00-0014	EA	7" Scale, Angle Stem, Liquid Filled Industrial Separable Socket Type Thermometer.....	144.78	35.67	
23 05 19 00-0015	EA	9" Scale, Angle Stem, Liquid Filled Industrial Separable Socket Type Thermometer.....	144.78	35.67	
23 05 19 00-0016	EA	12" Scale, Angle Stem, Liquid Filled Industrial Separable Socket Type Thermometer	183.18	35.67	
23 05 19 00-0017	EA	7" Scale, Straight Stem, Liquid Filled Industrial Separable Socket Type Thermometer.....	166.49	35.67	
23 05 19 00-0018	EA	9" Scale, Straight Stem, Liquid Filled Industrial Separable Socket Type Thermometer	183.18	35.67	
23 05 19 00-0019	EA	12" Scale, Straight Stem, Liquid Filled Industrial Separable Socket Type Thermometer.....	187.44	35.67	

23 05 19 00-0020	1" NPT, 304 Stainless Steel Thermowells (23 05 19 00-0001)				
23 05 19 00-0021	EA	4" Long, 1" NPT, 304 Stainless Steel Thermowell.....	186.42	66.88	
23 05 19 00-0022	EA	8" Long, 1" NPT, 304 Stainless Steel Thermowell.....	186.33	66.88	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 19 Meters and Gages for HVAC Piping**

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
23 05 19 00-0023	Pressure Gauges (23 05 19)				
23 05 19 00-0024	Steel Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauges (23 05 19 00-0023)				
23 05 19 00-0025	EA 2" Diameter Dial, Steel Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	38.55		13.93	
23 05 19 00-0026	EA 4" Diameter Dial, Steel Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	48.40		13.93	
23 05 19 00-0027	Aluminum Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauges (23 05 19 00-0023)				
23 05 19 00-0028	EA 3-1/2" Diameter Dial, Aluminum Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	303.34		13.93	
23 05 19 00-0029	EA 4-1/2" Diameter Dial, Aluminum Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	303.34		13.93	
23 05 19 00-0030	EA 6" Diameter Dial, Aluminum Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	396.90		13.93	
23 05 19 00-0031	EA 8-1/2" Diameter Dial, Aluminum Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	947.84		13.93	
23 05 19 00-0032	Brass Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauges (23 05 19 00-0023)				
	Note: Liquid filled.				
23 05 19 00-0033	EA 2-1/2" Diameter Dial, Brass Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	145.33		13.93	
23 05 19 00-0034	EA 4" Diameter Dial, Brass Case, 0 To 60 PSI Or 0 To 100 PSI, Pressure Gauge.....	333.17		13.93	
23 05 19 00-0035	Steel Case, 0 To 10K PSI High Pressure, Pressure Gauges (23 05 19 00-0023)				
23 05 19 00-0036	EA 4-1/2" Diameter Dial, Steel Case, 0 To 10K PSI High Pressure, Pressure Gauge.....	326.70		13.93	
23 05 19 00-0037	EA 6-1/2" Diameter Dial, Steel Case, 0 To 10K PSI High Pressure, Pressure Gauge.....	326.70		13.93	
23 05 19 00-0038	EA 8-1/2" Diameter Dial, Steel Case, 0 To 10K PSI High Pressure, Pressure Gauge.....	326.70		13.93	
23 05 19 00-0039	Gauge Accessories (23 05 19 00-0023)				
23 05 19 00-0040	EA Pete's Plug (Valve Cock For Removable Pressure Gauge Or Thermometer).....	92.52		11.14	
23 05 19 00-0041	EA 1/4" Snubber Valve.....	55.56		11.14	
23 05 19 00-0042	EA 1/4" Female Pipe Thread, Brass Gauge Cock.....	34.72		16.72	
23 05 19 00-0043	EA 1/4" Male Pipe Thread, Brass Gauge Cock.....	29.57		16.72	
23 05 19 00-0044	EA 1/4" Pressure Pigtail Steam Siphon.....	46.31		16.72	
23 05 19 00-0045	EA 1/4" x 3" Long Black Steel Nipple.....	8.53		5.57	
23 05 19 00-0046	EA 1/4" Steel Thread-O-Let.....	63.97		27.87	
23 05 19 00-0047	EA 1/4", 300 LB, Black Steel Union.....	112.66		11.14	
23 05 19 00-0048	EA 1/4" Black Steel Coupling.....	25.64		11.14	
23 05 19 00-0049	EA 1/4", 300 LB, Black Steel Plug.....	14.15		6.69	
23 05 19 00-0050	EA 1/4", 150 LB, Black Steel Cap.....	15.26		6.69	
23 05 19 00-0051	LF 1/4" Schedule 40, Threaded And Coupled, Black Steel Pipe.....	10.68		3.68	
23 05 19 00-0052	LF 1/4" Schedule 80, Plain End, Black Steel Pipe.....	10.69		3.68	
23 05 19 00-0053	LF 1/4" Schedule 40, Threaded And Coupled, Galvanized Steel Pipe.....	9.21			
23 05 19 00-0054	EA 1/4" Threaded, 800 LB, Forged Steel, Ball Valve.....	113.80			
23 05 19 00-0055	Valve Lock Covers (23 05 19)				
23 05 19 00-0056	EA Valve Lock Cover.....	86.82		17.06	
23 05 19 00-0057	Sight Flow Indicator (23 05 19)				
23 05 19 00-0058	Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (23 05 19 00-0057)				
23 05 19 00-0059	EA 1/4" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100).....	170.96		16.23	
23 05 19 00-0060	EA 3/8" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100).....	178.54		17.07	
23 05 19 00-0061	EA 1/2" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100).....	193.25		17.94	
23 05 19 00-0062	EA 3/4" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100).....	215.13		24.18	
23 05 19 00-0063	EA 1" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100).....	257.03		29.30	
23 05 19 00-0064	EA 1-1/4" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100).....	290.28		37.10	
23 05 19 00-0065	EA 1-1/2" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100).....	414.40		42.89	
23 05 19 00-0066	EA 2" Threaded, Single Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-100).....	458.16		50.70	
23 05 19 00-0067	Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (23 05 19 00-0057)				
23 05 19 00-0068	EA 1/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300).....	223.79		16.23	
23 05 19 00-0069	EA 3/8" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300).....	230.19		17.07	
23 05 19 00-0070	EA 1/2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300).....	248.43		17.94	
23 05 19 00-0071	EA 3/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300).....	262.09		24.18	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 19 00-0072 EA 1" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	276.99	29.30
23 05 19 00-0073 EA 1-1/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	298.49	37.10
23 05 19 00-0074 EA 1-1/2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	574.05	42.89
23 05 19 00-0075 EA 2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Bronze Body, Sight Flow Indicator (Dwyer SFI-300)	613.11	50.70
23 05 19 00-0076 Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (23 05 19 00-0057)		
23 05 19 00-0077 EA 1/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	325.92	16.23
23 05 19 00-0078 EA 3/8" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	344.06	17.07
23 05 19 00-0079 EA 1/2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	374.03	17.94
23 05 19 00-0080 EA 3/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	405.31	24.18
23 05 19 00-0081 EA 1" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	464.81	29.30
23 05 19 00-0082 EA 1-1/4" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	489.84	37.10
23 05 19 00-0083 EA 1-1/2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	996.66	42.89
23 05 19 00-0084 EA 2" Threaded, Double Window, Acrylonitrile Butadiene Styrene (ABS) Plastic Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-300SS)	1,047.45	50.70
23 05 19 00-0085 Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicators (23 05 19 00-0057)		
23 05 19 00-0086 EA 1/4" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	220.26	16.23
23 05 19 00-0087 EA 3/8" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	229.02	17.07
23 05 19 00-0088 EA 1/2" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	242.56	17.94
23 05 19 00-0089 EA 3/4" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	260.92	24.18
23 05 19 00-0090 EA 1" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	275.81	29.30
23 05 19 00-0091 EA 1-1/4" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	298.49	37.10
23 05 19 00-0092 EA 1-1/2" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	567.01	42.89
23 05 19 00-0093 EA 2" Threaded, Double Window, 304SS Flapper, Bronze Body, Sight Flow Indicator (Dwyer SFI-360)	603.72	50.70
23 05 19 00-0094 Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicators (23 05 19 00-0057)		
23 05 19 00-0095 EA 1/4" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	323.57	16.23
23 05 19 00-0096 EA 3/8" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	348.76	17.07
23 05 19 00-0097 EA 1/2" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	381.08	17.94
23 05 19 00-0098 EA 3/4" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	405.31	24.18
23 05 19 00-0099 EA 1" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	464.81	29.30
23 05 19 00-0100 EA 1-1/4" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	494.54	37.10
23 05 19 00-0101 EA 1-1/2" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	996.66	42.89
23 05 19 00-0102 EA 2" Threaded, Double Window, 304SS Flapper, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-360SS)	1,047.45	50.70
23 05 19 00-0103 Threaded, Tube Style, Without Impeller, Cast Iron Body, Sight Flow Indicators (23 05 19 00-0057)		
23 05 19 00-0104 EA 1" Threaded, Tube Style, Without Impeller, Cast Iron Body, Sight Flow Indicator (Dwyer SFI-400)	474.20	29.30
23 05 19 00-0105 EA 1-1/4" Threaded, Tube Style, Without Impeller, Cast Iron Body, Sight Flow Indicator (Dwyer SFI-400)	532.10	37.10
23 05 19 00-0106 EA 1-1/2" Threaded, Tube Style, Without Impeller, Cast Iron Body, Sight Flow Indicator (Dwyer SFI-400)	604.57	42.89
23 05 19 00-0107 EA 2" Threaded, Tube Style, Without Impeller, Cast Iron Body, Sight Flow Indicator (Dwyer SFI-400)	678.85	50.70
23 05 19 00-0108 Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicators (23 05 19 00-0057)		
23 05 19 00-0109 EA 1-1/2" Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicator (Dwyer SFI-360FCS)	1,041.70	116.99
23 05 19 00-0110 EA 2" Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicator (Dwyer SFI-360FCS)	1,160.62	148.53
23 05 19 00-0111 EA 3" Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicator (Dwyer SFI-360FCS)	1,716.79	174.43
23 05 19 00-0112 EA 4" Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicator (Dwyer SFI-360FCS)	2,585.71	292.42
23 05 19 00-0113 EA 6" Flanged, Double Window, 316SS Flapper, Carbon Steel Body, Sight Flow Indicator (Dwyer SFI-360FCS)	4,218.67	364.23
23 05 19 00-0114 Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicators (23 05 19 00-0057)		
23 05 19 00-0115 EA 1" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	800.06	83.56
23 05 19 00-0116 EA 1-1/4" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	945.19	97.49
23 05 19 00-0117 EA 1-1/2" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	1,017.63	116.99
23 05 19 00-0118 EA 2" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	1,275.08	148.53
23 05 19 00-0119 EA 3" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	1,857.07	174.43
23 05 19 00-0120 EA 4" Flanged, Tube Style, Without Impeller, Stainless Steel Body, Sight Flow Indicator (Dwyer SFI-400F)	2,737.73	292.42

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 19 Meters and Gages for HVAC Piping**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 19 00-0121 Venturi Flowmeters (23 05 19)**23 05 19 00-0122 Threaded, Brass, Venturi Flowmeters (23 05 19 00-0121)**

23 05 19 00-0123	EA	3/4" Threaded, Brass, Venturi Flowmeter	309.30	75.80
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
23 05 19 00-0124	EA	1" Threaded, Brass, Venturi Flowmeter	340.80	90.95
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
23 05 19 00-0125	EA	1-1/4" Threaded, Brass, Venturi Flowmeter	375.79	101.10
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
23 05 19 00-0126	EA	1-1/2" Threaded, Brass, Venturi Flowmeter	423.57	113.70
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
23 05 19 00-0127	EA	2" Threaded, Brass, Venturi Flowmeter	504.85	129.97
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
23 05 19 00-0128	EA	2-1/2" Threaded, Brass, Venturi Flowmeter	695.08	184.27
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	

23 05 19 00-0129 Butt Weld, Carbon Steel, Venturi Flowmeters (23 05 19 00-0121)

23 05 19 00-0130	EA	3" Butt Weld, Carbon Steel, Venturi Flowmeter	2,458.90	156.24
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
		<i>For Flanged Ends, Add</i>	751.25	
23 05 19 00-0131	EA	4" Butt Weld, Carbon Steel, Venturi Flowmeter	3,451.52	187.48
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
		<i>For Flanged Ends, Add</i>	1,076.79	
23 05 19 00-0132	EA	5" Butt Weld, Carbon Steel, Venturi Flowmeter	4,546.93	234.35
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
		<i>For Flanged Ends, Add</i>	1,427.37	
23 05 19 00-0133	EA	6" Butt Weld, Carbon Steel, Venturi Flowmeter	5,347.10	312.47
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
		<i>For Flanged Ends, Add</i>	1,652.75	
23 05 19 00-0134	EA	8" Butt Weld, Carbon Steel, Venturi Flowmeter	7,976.25	374.97
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
		<i>For Flanged Ends, Add</i>	2,529.21	
23 05 19 00-0135	EA	10" Butt Weld, Carbon Steel, Venturi Flowmeter	13,315.16	468.72
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
		<i>For Flanged Ends, Add</i>	4,332.21	
23 05 19 00-0136	EA	12" Butt Weld, Carbon Steel, Venturi Flowmeter	20,112.12	683.33
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
		<i>For Flanged Ends, Add</i>	6,560.91	
23 05 19 00-0137	EA	14" Butt Weld, Carbon Steel, Venturi Flowmeter	28,093.31	1,025.00
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
		<i>For Flanged Ends, Add</i>	9,115.16	
23 05 19 00-0138	EA	16" Butt Weld, Carbon Steel, Venturi Flowmeter	42,702.15	1,138.89
		<i>For Portable Venturi Flow Meter, Add</i>	995.00	
		<i>For Flanged Ends, Add</i>	14,148.53	

23 05 19 00-0139 Turbine Flowmeter (23 05 19)

23 05 19 00-0140	EA	Saddle Mount Turbine Flowmeter	1,789.70	83.60

23 05 19 00-0141 Water Flow Switches (23 05 19)

23 05 19 00-0142	EA	Flexible Paddle, Single Switch, Brass Body, Water Flow Switch (Taco IFS01BF-1)	289.73	32.85
23 05 19 00-0143	EA	Rigid Paddle, Single Switch, Brass Body, Water Flow Switch (Taco IFS01BR-1)	300.47	32.85
23 05 19 00-0144	EA	Flexible Paddle, Double Switch, Brass Body, Water Flow Switch (Taco IFS02BF-1)	391.14	32.85
23 05 19 00-0145	EA	Rigid Paddle, Double Switch, Brass Body, Water Flow Switch (Taco IFS02BR-1)	404.87	32.85
23 05 19 00-0146	EA	Flexible Paddle, High Current Single Switch, Brass Body, Water Flow Switch (Taco IFSH1BF-1)	314.20	32.85
23 05 19 00-0147	EA	Rigid Paddle, High Current Single Switch, Brass Body, Water Flow Switch (Taco IFSH1BR-1)	326.72	32.85
23 05 19 00-0148	EA	Flexible Paddle, High Current Double Switch, Brass Body, Water Flow Switch (Taco IFSH2BF-1)	415.61	32.85
23 05 19 00-0149	EA	Rigid Paddle, High Current Double Switch, Brass Body, Water Flow Switch (Taco IFSH2BR-1)	428.13	32.85
23 05 19 00-0150	EA	Flexible Paddle, Single Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFS01SF-1)	831.36	32.85
23 05 19 00-0151	EA	Rigid Paddle, Single Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFS01SR-1)	843.49	32.85
23 05 19 00-0152	EA	Flexible Paddle, Double Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFS02SF-1)	958.75	32.85
23 05 19 00-0153	EA	Rigid Paddle, Double Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFS02SR-1)	975.44	32.85
23 05 19 00-0154	EA	Flexible Paddle, High Current Single Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFSH1SF-1)	860.17	32.85
23 05 19 00-0155	EA	Rigid Paddle, High Current Single Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFSH1SR-1)	876.85	32.85
23 05 19 00-0156	EA	Flexible Paddle, High Current Double Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFSH2SF-1)	987.57	32.85
23 05 19 00-0157	EA	Rigid Paddle, High Current Double Switch, 316 Stainless Steel Body, Water Flow Switch (Taco IFSH2SR-1)	1,005.77	32.85

23 05 19 00-0158 Sight Glass (23 05 19)**23 05 19 00-0159 In-Line, 316L Stainless Steel Body, Sight Glass With Clamp (23 05 19 00-0158)**

23 05 19 00-0160	EA	1" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R100)	535.06	29.30
23 05 19 00-0161	EA	1-1/2" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R150)	621.59	42.89
23 05 19 00-0162	EA	2" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R200)	669.10	50.70
23 05 19 00-0163	EA	2-1/2" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R250)	847.63	60.39
23 05 19 00-0164	EA	3" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R250)	1,272.44	62.07
23 05 19 00-0165	EA	4" In-Line, 316 L Stainless Steel Body, Borosilicate Glass, Sight Glass With Clamp (Dixon B54BMP-R400)	1,543.93	91.58



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

23 05 23 General-Duty Valves For HVAC Piping (23 05)

Note: Flanged valves exclude bolt and gasket sets. See CSI section 22 05 23 00-0000 for additional valves, 23 21 13 23-0713 for bolt and gasket sets.

23 05 23 00-0001 Gate Valves (23 05 23)

23 05 23 00-0002 Class 125 Threaded, Bronze Gate Valves (23 05 23 00-0001)

Note: 125 psi steam, basic rating. 200 psi cold working pressure.

23 05 23 00-0003	EA 1/4" Diameter, 125 LB, Threaded Bronze Gate Valve	64.42	11.14
	For 150 LB Rating, Add	3.20	
	For 200 LB Rating, Add	4.80	
	For 250 LB Rating, Add	8.00	
	For 300 LB Rating, Add	11.19	
	For Work In Restricted Working Space, Add	9.73	
23 05 23 00-0004	EA 3/8" Diameter, 125 LB, Threaded Bronze Gate Valve	66.13	11.14
	For 150 LB Rating, Add	3.20	
	For 200 LB Rating, Add	4.80	
	For 250 LB Rating, Add	8.00	
	For 300 LB Rating, Add	11.19	
	For Work In Restricted Working Space, Add	10.25	
23 05 23 00-0005	EA 1/2" Diameter, 125 LB, Threaded Bronze Gate Valve	67.93	11.14
	For 150 LB Rating, Add	3.20	
	For 200 LB Rating, Add	4.80	
	For 250 LB Rating, Add	8.00	
	For 300 LB Rating, Add	11.19	
	For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0006	EA 3/4" Diameter, 125 LB, Threaded Bronze Gate Valve	86.60	12.26
	For 150 LB Rating, Add	3.82	
	For 200 LB Rating, Add	5.72	
	For 250 LB Rating, Add	9.54	
	For 300 LB Rating, Add	13.36	
	For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0007	EA 1" Diameter, 125 LB, Threaded Bronze Gate Valve	116.29	13.93
	For 150 LB Rating, Add	5.77	
	For 200 LB Rating, Add	8.65	
	For 250 LB Rating, Add	14.41	
	For 300 LB Rating, Add	20.18	
	For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0008	EA 1-1/4" Diameter, 125 LB, Threaded Bronze Gate Valve	152.01	14.82
	For 150 LB Rating, Add	7.77	
	For 200 LB Rating, Add	11.66	
	For 250 LB Rating, Add	19.43	
	For 300 LB Rating, Add	27.21	
	For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0009	EA 1-1/2" Diameter, 125 LB, Threaded Bronze Gate Valve	183.66	17.16
	For 150 LB Rating, Add	9.80	
	For 200 LB Rating, Add	14.69	
	For 250 LB Rating, Add	24.49	
	For 300 LB Rating, Add	34.28	
	For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0010	EA 2" Diameter, 125 LB, Threaded Bronze Gate Valve	235.12	20.27
	For 150 LB Rating, Add	13.38	
	For 200 LB Rating, Add	20.07	
	For 250 LB Rating, Add	33.46	
	For 300 LB Rating, Add	46.84	
	For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0011	EA 2-1/2" Diameter, 125 LB, Threaded Bronze Gate Valve	518.49	27.40
	For Chain Operated Type, Add	171.76	
	For 150 LB Rating, Add	38.17	
	For 200 LB Rating, Add	57.25	
	For 250 LB Rating, Add	95.42	
	For 300 LB Rating, Add	133.59	
	For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0012	EA 3" Diameter, 125 LB, Threaded Bronze Gate Valve	614.10	31.81
	For Chain Operated Type, Add	205.31	
	For 150 LB Rating, Add	45.63	
	For 200 LB Rating, Add	68.44	
	For 250 LB Rating, Add	114.06	
	For 300 LB Rating, Add	159.69	
	For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0013	EA 4" Diameter, 125 LB, Threaded Bronze Gate Valve	1,266.47	35.91
	For Chain Operated Type, Add	489.11	
	For 150 LB Rating, Add	108.69	
	For 200 LB Rating, Add	163.04	
	For 250 LB Rating, Add	271.73	
	For 300 LB Rating, Add	380.42	
	For Work In Restricted Working Space, Add	53.87	

23 05 23 00-0014 Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valves (23 05 23 00-0001)

Note: 125 psi steam, basic rating. 200 psi cold working pressure.

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0015 EA 1-1/2" Diameter, Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	274.62 37.78 66.12 66.12 25.71	17.16
23 05 23 00-0016 EA 2" Diameter, Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	420.51 63.84 111.73 111.73 30.39	20.27
23 05 23 00-0017 EA 2-1/2" Diameter, Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	616.91 96.02 168.04 168.04 41.04	27.40
23 05 23 00-0018 EA 3" Diameter, Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	787.77 125.98 220.47 220.47 47.36	31.81
23 05 23 00-0019 EA 4" Diameter, Class 125 Non-Rising Stem, Threaded, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	1,875.24 339.14 593.49 593.49 53.87	35.91
23 05 23 00-0020 Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valves (23 05 23 00-0001) Note: 125 psi steam, basic rating. 200 psi cold working pressure.		
23 05 23 00-0021 EA 1-1/2" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	602.76 132.29 228.08 529.46 228.08 43.98	116.99
23 05 23 00-0022 EA 2" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	662.78 138.35 238.54 569.93 238.54 55.71	148.53
23 05 23 00-0023 EA 2-1/2" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	758.96 166.00 286.20 665.68 286.20 55.97	148.78
23 05 23 00-0024 EA 3" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	933.77 207.48 357.73 824.62 357.73 65.49	174.43
23 05 23 00-0025 EA 4" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	1,320.45 276.66 477.00 1,137.23 477.00 109.94	292.42
23 05 23 00-0026 EA 5" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	1,649.21 359.63 620.05 1,444.65 620.05 122.74	327.80
23 05 23 00-0027 EA 6" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	1,983.01 442.57 763.05 1,754.56 763.05 137.07	364.23
23 05 23 00-0028 EA 8" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	3,106.12 733.12 1,264.00 2,817.06 1,264.00 173.44	465.40
23 05 23 00-0029 EA 10" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 250 LB Rating, Add For 300 LB Rating, ASTM A182, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	4,046.82 968.20 1,669.31 3,692.72 1,669.31 212.46	566.57



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0030	EA	12" Diameter, Class 125 Non-Rising Stem, Flanged, Cast Iron Body, Bronze Trim Gate Valve	5,628.14	687.97
		For 150 LB Rating, Add	1,383.22	
		For 250 LB Rating, Add	2,384.66	
		For 300 LB Rating, ASTM A182, Add	5,198.93	
		For Chain Operated Type, Add	2,384.86	
		For Work In Restricted Working Space, Add	257.53	
23 05 23 00-0031		Class 125 Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valves (23 05 23 00-0001)		
		Note: 125 psi steam, basic rating. 200 psi cold working pressure.		
23 05 23 00-0032	EA	1-1/2" Diameter, 125 LB Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valve	548.79	17.16
		For 175 LB Rating, Add	231.54	
		For 250 LB Rating, Add	347.31	
		For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0033	EA	2" Diameter, 125 LB Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valve	699.93	20.27
		For 175 LB Rating, Add	299.32	
		For 250 LB Rating, Add	448.98	
		For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0034	EA	2-1/2" Diameter, 125 LB Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valve	811.85	27.40
		For 175 LB Rating, Add	337.52	
		For 250 LB Rating, Add	506.28	
		For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0035	EA	3" Diameter, 125 LB Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valve	902.69	31.81
		For 175 LB Rating, Add	372.42	
		For 250 LB Rating, Add	558.63	
		For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0036	EA	4" Diameter, 125 LB Outside Stem And Yoke, Threaded, Cast Iron Body, Bronze Trim Gate Valve	1,208.08	35.91
		For 175 LB Rating, Add	514.26	
		For 250 LB Rating, Add	771.39	
		For Work In Restricted Working Space, Add	53.87	
23 05 23 00-0037		Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valves (23 05 23 00-0001)		
		Note: 125 psi steam, basic rating. 200 psi cold working pressure for up to 12". 100 psi steam, basic rating. 150 psi cold working pressure for >12" to 24". 50 psi steam, basic rating. 150 psi cold working pressure for >24".		
23 05 23 00-0038	EA	1-1/2" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve	804.19	116.99
		For 150 LB Rating, Add	98.64	
		For 175 LB Rating, Add	203.65	
		For 250 LB Rating, Add	427.43	
		For Chain Operated Type, Add	328.80	
		For Work In Restricted Working Space, Add	43.98	
23 05 23 00-0039	EA	2" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve	862.83	148.53
		For 150 LB Rating, Add	101.57	
		For 175 LB Rating, Add	209.91	
		For 250 LB Rating, Add	440.13	
		For Chain Operated Type, Add	338.57	
		For Work In Restricted Working Space, Add	55.71	
23 05 23 00-0040	EA	2-1/2" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve	885.79	148.78
		For 150 LB Rating, Add	104.88	
		For 175 LB Rating, Add	216.76	
		For 250 LB Rating, Add	454.50	
		For Chain Operated Type, Add	349.62	
		For Work In Restricted Working Space, Add	55.97	
23 05 23 00-0041	EA	3" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve	987.65	174.43
		For 150 LB Rating, Add	115.40	
		For 175 LB Rating, Add	238.50	
		For 250 LB Rating, Add	500.07	
		For Chain Operated Type, Add	384.67	
		For Work In Restricted Working Space, Add	65.49	
23 05 23 00-0042	EA	4" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve	1,299.46	292.42
		For 150 LB Rating, Add	139.95	
		For 175 LB Rating, Add	289.23	
		For 250 LB Rating, Add	606.46	
		For Chain Operated Type, Add	466.51	
		For Work In Restricted Working Space, Add	109.94	
23 05 23 00-0043	EA	5" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve	1,710.87	327.80
		For 150 LB Rating, Add	195.26	
		For 175 LB Rating, Add	403.54	
		For 250 LB Rating, Add	846.14	
		For Chain Operated Type, Add	650.88	
		For Work In Restricted Working Space, Add	122.74	
23 05 23 00-0044	EA	6" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve	1,943.56	364.23
		For 150 LB Rating, Add	223.00	
		For 175 LB Rating, Add	460.66	
		For 250 LB Rating, Add	966.32	
		For Chain Operated Type, Add	743.33	
		For Work In Restricted Working Space, Add	137.07	
23 05 23 00-0045	EA	8" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve	3,092.46	465.40
		For 150 LB Rating, Add	377.15	
		For 175 LB Rating, Add	779.44	
		For 250 LB Rating, Add	1,634.31	
		For Chain Operated Type, Add	1,257.17	
		For Work In Restricted Working Space, Add	173.44	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0046 EA 10" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	4,577.74 580.43 1,199.56 2,515.20 1,934.77 212.46	566.57
23 05 23 00-0047 EA 12" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Chain Operated Type, Add For Work In Restricted Working Space, Add	5,762.75 735.65 1,520.34 3,187.81 2,452.16 257.53	687.97
23 05 23 00-0048 EA 14" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	11,692.52 1,568.76 3,242.11 6,797.98 370.23	987.27
23 05 23 00-0049 EA 16" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	15,268.26 2,086.61 4,312.34 9,041.99 407.25	1,086.00
23 05 23 00-0050 EA 18" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	20,980.90 2,921.30 6,037.35 12,658.95 451.68	1,204.48
23 05 23 00-0051 EA 20" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	26,732.73 3,755.38 7,761.11 16,273.30 509.06	1,357.50
23 05 23 00-0052 EA 24" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	36,620.04 5,180.63 10,706.63 22,449.38 624.76	1,666.03
23 05 23 00-0053 EA 30" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	76,785.94 11,008.83 22,751.58 47,704.92 1,018.13	2,715.01
23 05 23 00-0054 EA 36" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	97,776.26 13,987.69 28,907.89 60,613.31 1,357.50	3,620.01
23 05 23 00-0055 EA 42" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	114,533.69 16,318.97 33,725.87 70,715.53 1,722.17	4,592.45
23 05 23 00-0056 EA 48" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	137,650.71 19,571.25 40,447.25 84,808.75 2,152.71	5,740.57
23 05 23 00-0057 EA 54" Diameter, Class 125 Outside Stem And Yoke, Flanged, Cast Iron Body, Bronze Trim Gate Valve For 150 LB Rating, Add For 175 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	165,180.85 23,485.50 48,536.70 101,770.50 2,583.26	6,888.68
23 05 23 00-0058 Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valves (23 05 23 00-0001) Note: 800 psig at 850 degrees F.		
23 05 23 00-0059 EA 1/4" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve..... For Work In Restricted Working Space, Add	165.15 9.73	11.14
23 05 23 00-0060 EA 1/2" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve..... For Work In Restricted Working Space, Add	168.66 10.79	11.14
23 05 23 00-0061 EA 3/4" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve..... For Work In Restricted Working Space, Add	198.96 14.53	12.26
23 05 23 00-0062 EA 1" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve..... For Work In Restricted Working Space, Add	241.53 17.59	13.93
23 05 23 00-0063 EA 1-1/4" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve..... For Work In Restricted Working Space, Add	369.36 22.28	14.82
23 05 23 00-0064 EA 1-1/2" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve..... For Work In Restricted Working Space, Add	436.92 25.71	17.16



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0065	EA		2" Diameter, Class 800 Outside Stem And Yoke, Threaded, Forged Steel, Chrome Trim, Bolted Bonnet Gate Valve	549.60	20.27
			For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0066			Ball Valves (23 05 23)		
23 05 23 00-0067			Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valves (23 05 23 00-0066)		
			Note: 125 LB WSP.		
23 05 23 00-0068	EA		1/2" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	50.29	11.14
			For Extension Stems And Sleeves On Insulated Pipe, Add	2.63	
			For Full Port, Add	6.45	
			For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0069	EA		3/4" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	70.50	12.26
			For Extension Stems And Sleeves On Insulated Pipe, Add	2.63	
			For Full Port, Add	9.93	
			For Work In Restricted Working Space, Add	14.33	
23 05 23 00-0070	EA		1" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	88.42	13.93
			For Extension Stems And Sleeves On Insulated Pipe, Add	2.63	
			For Full Port, Add	13.40	
			For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0071	EA		1-1/4" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	124.28	14.82
			For Extension Stems And Sleeves On Insulated Pipe, Add	2.63	
			For Full Port, Add	22.50	
			For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0072	EA		1-1/2" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	149.57	17.16
			For Extension Stems And Sleeves On Insulated Pipe, Add	2.63	
			For Full Port, Add	28.74	
			For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0073	EA		2" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	181.28	20.27
			For Extension Stems And Sleeves On Insulated Pipe, Add	2.63	
			For Full Port, Add	36.00	
			For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0074	EA		2-1/2" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	514.30	27.40
			For Extension Stems And Sleeves On Insulated Pipe, Add	2.63	
			For Full Port, Add	169.87	
			For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0075	EA		3" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	593.40	31.81
			For Extension Stems And Sleeves On Insulated Pipe, Add	2.63	
			For Full Port, Add	196.00	
			For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0076	EA		4" Threaded Or Sweated, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve	773.37	35.91
			For Extension Stems And Sleeves On Insulated Pipe, Add	2.63	
			For Full Port, Add	267.21	
			For Work In Restricted Working Space, Add	53.87	
23 05 23 00-0077			Screwed, 150 LB, Full Port, Carbon Steel Ball Valves (23 05 23 00-0066)		
23 05 23 00-0078	EA		1/4" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve	59.89	11.14
			For Work In Restricted Working Space, Add	9.73	
23 05 23 00-0079	EA		1/2" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve	65.75	11.14
			For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0080	EA		3/4" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve	91.54	12.26
			For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0081	EA		1" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve	116.59	13.93
			For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0082	EA		1-1/4" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve	173.33	14.82
			For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0083	EA		1-1/2" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve	211.19	17.16
			For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0084	EA		2" Screwed, 150 LB, Full Port, Carbon Steel Ball Valve	274.06	20.27
			For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0085			Flanged, 150 LB, Full Port, Carbon Steel Ball Valves (23 05 23 00-0066)		
23 05 23 00-0086	EA		1-1/2" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve	489.10	116.99
			For 150 LB Rating, Add	99.33	
			For 250 LB Rating, Add	171.25	
			For 300 LB Rating, ASTM A182, Add	415.80	
			For Chain Operated Type, Add	171.25	
			For Work In Restricted Working Space, Add	43.98	
			For Work In Restricted Working Space, Add	43.98	
23 05 23 00-0087	EA		2" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve	610.60	148.53
			For 150 LB Rating, Add	123.22	
			For 250 LB Rating, Add	212.45	
			For 300 LB Rating, ASTM A182, Add	517.75	
			For Chain Operated Type, Add	212.45	
			For Work In Restricted Working Space, Add	55.71	
			For Work In Restricted Working Space, Add	55.71	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0088 EA 2-1/2" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve.....	962.74	148.78
For 150 LB Rating, Add	225.09	
For 250 LB Rating, Add	388.09	
For 300 LB Rating, ASTM A182, Add	869.46	
For Chain Operated Type, Add	388.09	
For Work In Restricted Working Space, Add	55.97	
For Work In Restricted Working Space, Add	55.97	
23 05 23 00-0089 EA 3" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve.....	1,057.52	174.43
For 150 LB Rating, Add	243.37	
For 250 LB Rating, Add	419.61	
For 300 LB Rating, ASTM A182, Add	948.37	
For Chain Operated Type, Add	419.61	
For Work In Restricted Working Space, Add	65.49	
For Work In Restricted Working Space, Add	65.49	
23 05 23 00-0090 EA 4" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve.....	1,545.20	292.42
For Work In Restricted Working Space, Add	109.94	
23 05 23 00-0091 EA 6" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve.....	3,652.91	364.23
For Work In Restricted Working Space, Add	137.07	
23 05 23 00-0092 EA 8" Flanged, 150 LB, Full Port, Carbon Steel Ball Valve.....	6,248.75	465.40
For Work In Restricted Working Space, Add	173.44	
23 05 23 00-0093 Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valves (23 05 23 00-0066)		
23 05 23 00-0094 EA 1/2" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve.....	46.57	11.14
For True Union Socket Or Thread Type, Add	6.14	
For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0095 EA 3/4" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve.....	60.67	12.26
For True Union Socket Or Thread Type, Add	7.44	
For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0096 EA 1" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve.....	75.67	13.93
For True Union Socket Or Thread Type, Add	9.89	
For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0097 EA 1-1/4" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve.....	96.65	14.82
For True Union Socket Or Thread Type, Add	12.85	
For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0098 EA 1-1/2" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve.....	124.63	17.16
For True Union Socket Or Thread Type, Add	20.07	
For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0099 EA 2" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve.....	150.89	20.27
For True Union Socket Or Thread Type, Add	25.16	
For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0100 EA 2-1/2" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve.....	243.54	27.40
For True Union Socket Or Thread Type, Add	49.87	
For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0101 EA 3" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve.....	339.32	31.81
For True Union Socket Or Thread Type, Add	80.88	
For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0102 EA 4" Socket, 150 PSI, Polyvinyl Chloride (PVC), Ball Valve.....	526.55	35.91
For True Union Socket Or Thread Type, Add	148.22	
For Work In Restricted Working Space, Add	53.87	
23 05 23 00-0103 Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valves (23 05 23 00-0066)		
23 05 23 00-0104 EA 1/4" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve.....	91.81	16.71
For Full Port, Add	19.41	
For Work In Restricted Working Space, Add	14.60	
23 05 23 00-0105 EA 3/8" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve.....	94.37	16.71
For Full Port, Add	19.41	
For Work In Restricted Working Space, Add	15.37	
23 05 23 00-0106 EA 1/2" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve.....	97.05	16.71
For Full Port, Add	19.41	
For Work In Restricted Working Space, Add	16.17	
23 05 23 00-0107 EA 3/4" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve.....	118.41	18.38
For Full Port, Add	20.58	
For Work In Restricted Working Space, Add	21.80	
23 05 23 00-0108 EA 1" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve.....	155.73	20.89
For Full Port, Add	30.49	
For Work In Restricted Working Space, Add	26.39	
23 05 23 00-0109 EA 1-1/4" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve.....	204.16	22.23
For Full Port, Add	41.73	
For Work In Restricted Working Space, Add	33.43	
23 05 23 00-0110 EA 1-1/2" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve.....	251.86	25.73
For Full Port, Add	55.49	
For Work In Restricted Working Space, Add	38.57	
23 05 23 00-0111 EA 2" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve.....	352.60	30.42
For Full Port, Add	90.30	
For Work In Restricted Working Space, Add	45.58	
23 05 23 00-0112 EA 2-1/2" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve.....	692.19	41.09
For Full Port, Add	219.14	
For Work In Restricted Working Space, Add	61.56	
23 05 23 00-0113 EA 3" Threaded Or Sweated, 3-Way, 125 LB, Regular Port, Carbon Steel Trim, Brass Body, Ball Valve.....	1,010.08	47.71
For Full Port, Add	347.98	
For Work In Restricted Working Space, Add	71.04	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0114 Wye Strainer, Union With Two Pressure Ports, Ball Valves (23 05 23 00-0066)		
23 05 23 00-0115 EA 1/2" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	171.67	11.14
23 05 23 00-0116 EA 3/4" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	220.08	14.48
23 05 23 00-0117 EA 1" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	283.85	17.83
23 05 23 00-0118 EA 1-1/4" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	387.72	24.51
23 05 23 00-0119 EA 1-1/2" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	485.33	28.52
23 05 23 00-0120 EA 2" Diameter, Wye Strainer, Union With Two Pressure Ports, Ball Valve.....	641.20	33.43
23 05 23 00-0121 Plastic Ball Valves (23 05 23 00-0066) Note: Threaded or socket.		
23 05 23 00-0122 Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valves (23 05 23 00-0121)		
23 05 23 00-0123 EA 3/8" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	71.47	11.14
23 05 23 00-0124 EA 1/2" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	74.63	11.14
23 05 23 00-0125 EA 3/4" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	94.36	12.26
23 05 23 00-0126 EA 1" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	122.90	13.93
23 05 23 00-0127 EA 1-1/4" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	145.97	14.82
23 05 23 00-0128 EA 1-1/2" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	177.04	17.16
23 05 23 00-0129 EA 2" Ethylene Propylene Diene Monomer (EPDM) Liner And Seals, Polyvinyl Chloride (PVC) Ball Valve (George Fisher Type 346).....	215.82	20.27
23 05 23 00-0130 Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valves (23 05 23 00-0121)		
23 05 23 00-0131 EA 3/8" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	107.97	11.14
23 05 23 00-0132 EA 1/2" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	109.47	11.14
23 05 23 00-0133 EA 3/4" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	137.49	12.26
23 05 23 00-0134 EA 1" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	169.78	13.93
23 05 23 00-0135 EA 1-1/4" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	256.75	14.82
23 05 23 00-0136 EA 1-1/2" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	284.77	17.16
23 05 23 00-0137 EA 2" Viton Liner And Seals, Chlorinated Polyvinyl Chloride (CPVC) Ball Valve (George Fisher Type 346).....	341.82	20.27
23 05 23 00-0138 Viton Liner And Seals, Polypropylene (PP) Ball Valves (23 05 23 00-0121)		
23 05 23 00-0139 EA 3/8" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346).....	120.41	11.14
23 05 23 00-0140 EA 1/2" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346).....	130.20	11.14
23 05 23 00-0141 EA 3/4" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346).....	149.10	12.26
23 05 23 00-0142 EA 1" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346).....	183.05	13.93
23 05 23 00-0143 EA 1-1/4" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346).....	230.21	14.82
23 05 23 00-0144 EA 1-1/2" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346).....	276.47	17.16
23 05 23 00-0145 EA 2" Viton Liner And Seals, Polypropylene (PP) Ball Valve (George Fisher Type 346).....	358.40	20.27
23 05 23 00-0146 Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valves (23 05 23 00-0121)		
23 05 23 00-0147 EA 3/8" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346).....	243.16	11.14
23 05 23 00-0148 EA 1/2" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346).....	259.59	11.14
23 05 23 00-0149 EA 3/4" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346).....	308.34	12.26
23 05 23 00-0150 EA 1" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346).....	360.54	13.93
23 05 23 00-0151 EA 1-1/4" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346).....	439.22	14.82
23 05 23 00-0152 EA 1-1/2" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346).....	483.82	17.16
23 05 23 00-0153 EA 2" Viton Liner And Seals, Polyvinylidene Fluoride (PVDF) Ball Valve (George Fisher Type 346).....	557.46	20.27
23 05 23 00-0154 Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valves (23 05 23 00-0121)		
23 05 23 00-0155 EA 1/2" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact).....	48.34	11.14
23 05 23 00-0156 EA 3/4" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact).....	64.75	12.26
23 05 23 00-0157 EA 1" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact).....	78.55	13.93
23 05 23 00-0158 EA 1-1/4" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact).....	109.45	14.82
23 05 23 00-0159 EA 1-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact).....	120.88	17.16
23 05 23 00-0160 EA 2" Ethylene Propylene Diene Monomer (EPDM) Seals And Teflon Seats, Polyvinyl Chloride (PVC) Ball Valve (Hayward QIC Compact).....	147.65	20.27
23 05 23 00-0161 Plastic, True Union, Ball Valves (23 05 23 00-0066)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 23 00-0162		Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valves	
		(23 05 23 00-0161)	
		Note: Socket or NPT connectors.	
23 05 23 00-0163	EA	3/8" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	117.09 11.14
23 05 23 00-0164	EA	1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	121.91 11.14
23 05 23 00-0165	EA	3/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	147.44 12.26
23 05 23 00-0166	EA	1" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	181.39 13.93
23 05 23 00-0167	EA	1-1/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	218.60 14.82
23 05 23 00-0168	EA	1-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	251.59 17.16
23 05 23 00-0169	EA	2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Vertical Ball Valve (George Fisher Type 343)	308.64 20.27
23 05 23 00-0170		Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valves	
		(23 05 23 00-0161)	
		Note: Socket or NPT connectors.	
23 05 23 00-0171	EA	3/8" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	118.75 11.14
23 05 23 00-0172	EA	1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	138.50 11.14
23 05 23 00-0173	EA	3/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	149.10 12.26
23 05 23 00-0174	EA	1" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	181.39 13.93
23 05 23 00-0175	EA	1-1/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	215.28 14.82
23 05 23 00-0176	EA	1-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	249.93 17.16
23 05 23 00-0177	EA	2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC) Or Chlorinated Polyvinyl Chloride (CPVC), True Union, Horizontal Ball Valve (George Fisher Type 343)	308.64 20.27
23 05 23 00-0178		Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valves	
		(23 05 23 00-0161)	
		Note: Socket or NPT connectors.	
23 05 23 00-0179	EA	1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	63.85 11.14
23 05 23 00-0180	EA	3/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	81.92 12.26
23 05 23 00-0181	EA	1" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	98.45 13.93
23 05 23 00-0182	EA	1-1/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	129.85 14.82
23 05 23 00-0183	EA	1-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	152.06 17.16
23 05 23 00-0184	EA	2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	209.11 20.27
23 05 23 00-0185	EA	2-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	292.74 27.40
23 05 23 00-0186	EA	3" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	370.18 31.81
23 05 23 00-0187	EA	4" Ethylene Propylene Diene Monomer (EPDM) Seals, Polyvinyl Chloride (PVC), True Union, Ball Valve (George Fisher Type 560)	527.91 35.91
23 05 23 00-0188		Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valves	
		(23 05 23 00-0161)	
		Note: Socket or NPT connectors.	
23 05 23 00-0189	EA	1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	75.46 11.14
23 05 23 00-0190	EA	3/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	98.50 12.26
23 05 23 00-0191	EA	1" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	121.67 13.93
23 05 23 00-0192	EA	1-1/4" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	170.49 14.82
23 05 23 00-0193	EA	1-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	186.90 17.16
23 05 23 00-0194	EA	2" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	240.63 20.27
23 05 23 00-0195	EA	2-1/2" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	418.81 27.40



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0196	EA		3" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	499.61	31.81
23 05 23 00-0197	EA		4" Ethylene Propylene Diene Monomer (EPDM) Seals, Chlorinated Polyvinyl Chloride (CPVC), True Union, Ball Valve (George Fisher Type 560)	760.14	35.91
23 05 23 00-0198			Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valves (23 05 23 00-0161)		
23 05 23 00-0199			Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valves (23 05 23 00-0198)		
23 05 23 00-0200	EA		1/4" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve.....	61.88	11.14
23 05 23 00-0201	EA		3/8" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve.....	63.59	11.14
23 05 23 00-0202	EA		1/2" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve.....	65.09	11.14
23 05 23 00-0203	EA		3/4" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve.....	82.91	12.26
23 05 23 00-0204	EA		1" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve.....	101.52	13.93
23 05 23 00-0205	EA		1-1/4" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	123.94	14.82
23 05 23 00-0206	EA		1-1/2" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	149.23	17.16
23 05 23 00-0207	EA		2" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve.....	190.87	20.27
23 05 23 00-0208	EA		2-1/2" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	358.26	27.40
23 05 23 00-0209	EA		3" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve.....	398.38	31.81
23 05 23 00-0210	EA		4" Socket, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve.....	553.62	35.91
23 05 23 00-0211			Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valves (23 05 23 00-0198)		
23 05 23 00-0212	EA		1/4" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	61.88	11.14
23 05 23 00-0213	EA		3/8" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	63.59	11.14
23 05 23 00-0214	EA		1/2" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	65.09	11.14
23 05 23 00-0215	EA		3/4" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	82.91	12.26
23 05 23 00-0216	EA		1" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	101.52	13.93
23 05 23 00-0217	EA		1-1/4" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	123.94	14.82
23 05 23 00-0218	EA		1-1/2" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	149.23	17.16
23 05 23 00-0219	EA		2" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	190.87	20.27
23 05 23 00-0220	EA		2-1/2" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	358.26	27.40
23 05 23 00-0221	EA		3" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	398.38	31.81
23 05 23 00-0222	EA		4" Threaded, Viton Seal, Polyvinyl Chloride (PVC), True Union, Ball Valve	553.62	35.91
23 05 23 00-0223			Globe Valves (23 05 23)		
23 05 23 00-0224			Threaded Or Sweated, 125 LB, Bronze Body, Globe Valves (23 05 23 00-0223)		
23 05 23 00-0225	EA		1/8" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	72.36	11.14
			For 150 LB Rating, Add	11.29	
			For 200 LB Rating, Add	13.84	
			For 250 LB Rating, Add	16.38	
			For 300 LB Rating, Add	20.03	
			For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0226	EA		1/4" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	68.85	11.14
			For 150 LB Rating, Add	11.29	
			For 200 LB Rating, Add	13.84	
			For 250 LB Rating, Add	16.38	
			For 300 LB Rating, Add	20.03	
			For Work In Restricted Working Space, Add	9.73	
23 05 23 00-0227	EA		3/8" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	88.50	11.14
			For 150 LB Rating, Add	16.85	
			For 200 LB Rating, Add	20.65	
			For 250 LB Rating, Add	24.46	
			For 300 LB Rating, Add	29.89	
			For Work In Restricted Working Space, Add	10.25	
23 05 23 00-0228	EA		1/2" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	90.30	11.14
			For 150 LB Rating, Add	16.85	
			For 200 LB Rating, Add	20.65	
			For 250 LB Rating, Add	24.46	
			For 300 LB Rating, Add	29.89	
			For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	74.17	
			For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0229	EA		3/4" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	107.35	11.70
			For 150 LB Rating, Add	18.26	
			For 200 LB Rating, Add	22.39	
			For 250 LB Rating, Add	26.51	
			For 300 LB Rating, Add	32.40	
			For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	84.18	
			For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0230	EA		1" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve	138.26	11.70
			For 150 LB Rating, Add	24.68	
			For 200 LB Rating, Add	30.26	
			For 250 LB Rating, Add	35.83	
			For 300 LB Rating, Add	43.79	
			For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	111.04	
			For Work In Restricted Working Space, Add	17.59	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0231 EA 1-1/4" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve.....	211.79	14.82
For 150 LB Rating, Add	42.63	
For 200 LB Rating, Add	52.25	
For 250 LB Rating, Add	61.88	
For 300 LB Rating, Add	75.63	
For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	180.97	
For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0232 EA 1-1/2" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve.....	282.24	17.16
For 150 LB Rating, Add	60.92	
For 200 LB Rating, Add	74.68	
For 250 LB Rating, Add	88.44	
For 300 LB Rating, Add	108.09	
For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	250.47	
For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0233 EA 2" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve.....	332.33	20.27
For 150 LB Rating, Add	71.62	
For 200 LB Rating, Add	87.80	
For 250 LB Rating, Add	103.97	
For 300 LB Rating, Add	127.07	
For 600 LB Rating, Forged Steel, Bolted Bonnet, Socket Weld, Add	294.66	
For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0234 EA 2-1/2" Threaded Or Sweated, 125 LB, Bronze Body, Globe Valve.....	369.74	27.40
For 150 LB Rating, Add	72.21	
For 200 LB Rating, Add	88.51	
For 250 LB Rating, Add	104.82	
For 300 LB Rating, Add	128.11	
For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0235 EA 3" Globe Valve, Bronze, Threaded Or Soldered, 125 LB.....	679.72	31.81
For 150 LB Rating, Add	161.78	
For 200 LB Rating, Add	198.31	
For 250 LB Rating, Add	234.84	
For 300 LB Rating, Add	287.03	
For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0236 Threaded, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valves (23 05 23 00-0233)		
23 05 23 00-0237 EA 2" Threaded, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve.....	507.21	20.27
For 150 LB Rating, Add	125.84	
For 200 LB Rating, Add	154.25	
For 250 LB Rating, Add	182.66	
For 300 LB Rating, Add	223.26	
For Chain Operated Type, Add	338.94	
For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0238 EA 2-1/2" Threaded, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve.....	628.83	27.40
For 150 LB Rating, Add	152.53	
For 200 LB Rating, Add	186.97	
For 250 LB Rating, Add	221.41	
For 300 LB Rating, Add	270.61	
For Chain Operated Type, Add	410.84	
For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0239 EA 3" Threaded, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve.....	748.27	31.81
For 150 LB Rating, Add	183.03	
For 200 LB Rating, Add	224.36	
For 250 LB Rating, Add	265.69	
For 300 LB Rating, Add	324.73	
For Chain Operated Type, Add	493.00	
For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0240 EA 4" Threaded, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve.....	966.74	35.91
For 150 LB Rating, Add	244.04	
For 200 LB Rating, Add	299.15	
For 250 LB Rating, Add	354.25	
For 300 LB Rating, Add	432.98	
For Chain Operated Type, Add	657.34	
For Work In Restricted Working Space, Add	53.85	
23 05 23 00-0241 Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valves (23 05 23 00-0233)		
23 05 23 00-0242 EA 2" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve.....	576.50	148.53
For 150 LB Rating, Add	121.15	
For 250 LB Rating, Add	175.86	
For Chain Operated Type, Add	195.40	
For Work In Restricted Working Space, Add	55.71	
23 05 23 00-0243 EA 2-1/2" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve.....	662.97	148.78
For 150 LB Rating, Add	147.69	
For 250 LB Rating, Add	214.38	
For Chain Operated Type, Add	238.21	
For Work In Restricted Working Space, Add	55.97	
23 05 23 00-0244 EA 3" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve.....	790.00	174.43
For 150 LB Rating, Add	177.22	
For 250 LB Rating, Add	257.26	
For Chain Operated Type, Add	285.85	
For Work In Restricted Working Space, Add	65.49	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0245	EA		4" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	1,128.70	292.42
			For 150 LB Rating, Add	236.30	
			For 250 LB Rating, Add	343.01	
			For Chain Operated Type, Add	381.13	
			For Work In Restricted Working Space, Add	109.94	
23 05 23 00-0246	EA		5" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	1,469.13	327.80
			For 150 LB Rating, Add	328.60	
			For 250 LB Rating, Add	477.00	
			For Chain Operated Type, Add	530.01	
			For Work In Restricted Working Space, Add	122.74	
23 05 23 00-0247	EA		6" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	1,796.81	364.23
			For 150 LB Rating, Add	415.37	
			For 250 LB Rating, Add	602.96	
			For Chain Operated Type, Add	669.95	
			For Work In Restricted Working Space, Add	137.07	
23 05 23 00-0248	EA		8" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	2,638.60	465.40
			For 150 LB Rating, Add	638.75	
			For 250 LB Rating, Add	927.21	
			For Chain Operated Type, Add	1,030.24	
			For Work In Restricted Working Space, Add	173.44	
23 05 23 00-0249	EA		10" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	3,846.54	566.57
			For 150 LB Rating, Add	972.89	
			For 250 LB Rating, Add	1,412.25	
			For Chain Operated Type, Add	1,569.17	
			For Work In Restricted Working Space, Add	212.46	
23 05 23 00-0250	EA		12" Flanged, 125 LB, Outside Stem And Yoke, Iron Body, Globe Valve	6,797.03	687.97
			For 150 LB Rating, Add	1,840.97	
			For 250 LB Rating, Add	2,672.37	
			For Chain Operated Type, Add	2,969.30	
			For Work In Restricted Working Space, Add	257.53	
23 05 23 00-0251			Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valves (23 05 23 00-0223)		
23 05 23 00-0252	EA		1/8" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	63.53	11.14
			For 150 LB Rating, Add	8.55	
			For 200 LB Rating, Add	10.48	
			For 300 LB Rating, Add	15.17	
			For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0253	EA		1/4" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	60.02	11.14
			For 150 LB Rating, Add	8.55	
			For 200 LB Rating, Add	10.48	
			For 300 LB Rating, Add	15.17	
			For Work In Restricted Working Space, Add	9.73	
23 05 23 00-0254	EA		3/8" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	61.73	11.14
			For 150 LB Rating, Add	8.55	
			For 200 LB Rating, Add	10.48	
			For 300 LB Rating, Add	15.17	
			For Work In Restricted Working Space, Add	10.25	
23 05 23 00-0255	EA		1/2" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	65.37	11.14
			For 150 LB Rating, Add	9.12	
			For 200 LB Rating, Add	11.18	
			For 300 LB Rating, Add	16.18	
			For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0256	EA		3/4" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	89.23	11.70
			For 150 LB Rating, Add	12.64	
			For 200 LB Rating, Add	15.50	
			For 300 LB Rating, Add	22.43	
			For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0257	EA		1" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	112.17	11.70
			For 150 LB Rating, Add	16.59	
			For 200 LB Rating, Add	20.34	
			For 300 LB Rating, Add	29.44	
			For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0258	EA		1-1/4" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	153.80	14.82
			For 150 LB Rating, Add	24.65	
			For 200 LB Rating, Add	30.22	
			For 300 LB Rating, Add	43.74	
			For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0259	EA		1-1/2" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	178.42	17.16
			For 150 LB Rating, Add	28.74	
			For 200 LB Rating, Add	35.23	
			For 300 LB Rating, Add	50.99	
			For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0260	EA		2" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	240.93	20.27
			For 150 LB Rating, Add	43.29	
			For 200 LB Rating, Add	53.06	
			For 300 LB Rating, Add	76.80	
			For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0261	EA		2-1/2" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve	400.45	29.75
			For 150 LB Rating, Add	78.09	
			For 200 LB Rating, Add	95.72	
			For 300 LB Rating, Add	138.54	
			For Work In Restricted Working Space, Add	44.57	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0262 EA 3" Threaded Or Sweated, 125 LB, Bronze Body, Angle Globe Valve.....	597.99	34.54
For 150 LB Rating, Add	132.24	
For 200 LB Rating, Add	162.10	
For 300 LB Rating, Add	234.62	
For Work In Restricted Working Space, Add	51.42	
23 05 23 00-0263 Flanged, 125 LB, Iron Body, Angle Globe Valves (23 05 23 00-0223)		
23 05 23 00-0264 EA 2" Flanged, 125 LB, Iron Body, Angle Globe Valve	1,191.17	148.53
For 250 LB Rating, Add	603.28	
For Chain Operated Type, Add	392.13	
For Work In Restricted Working Space, Add	55.71	
23 05 23 00-0265 EA 2-1/2" Flanged, 125 LB, Iron Body, Angle Globe Valve	1,375.70	148.78
For 250 LB Rating, Add	713.48	
For Chain Operated Type, Add	463.76	
For Work In Restricted Working Space, Add	55.97	
23 05 23 00-0266 EA 3" Flanged, 125 LB, Iron Body, Angle Globe Valve	1,619.62	174.43
For 250 LB Rating, Add	840.79	
For Chain Operated Type, Add	546.51	
For Work In Restricted Working Space, Add	65.49	
23 05 23 00-0267 EA 4" Flanged, 125 LB, Iron Body, Angle Globe Valve	2,367.93	292.42
For 250 LB Rating, Add	1,200.89	
For Chain Operated Type, Add	780.58	
For Work In Restricted Working Space, Add	109.94	
23 05 23 00-0268 EA 5" Flanged, 125 LB, Iron Body, Angle Globe Valve	3,996.14	327.80
For 250 LB Rating, Add	2,152.21	
For Chain Operated Type, Add	1,398.94	
For Work In Restricted Working Space, Add	122.74	
23 05 23 00-0269 EA 6" Flanged, 125 LB, Iron Body, Angle Globe Valve	4,043.93	364.23
For 250 LB Rating, Add	2,152.21	
For Chain Operated Type, Add	1,398.94	
For Work In Restricted Working Space, Add	137.07	
23 05 23 00-0270 EA 8" Flanged, 125 LB, Iron Body, Angle Globe Valve	7,598.65	465.40
For 250 LB Rating, Add	4,212.31	
For Chain Operated Type, Add	2,738.00	
For Work In Restricted Working Space, Add	173.44	
23 05 23 00-0271 Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valves (23 05 23 00-0223)		
Note: 800 PSIG at 850 degrees F.		
23 05 23 00-0272 EA 1/4" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve	208.85	18.05
For Work In Restricted Working Space, Add	9.73	
23 05 23 00-0273 EA 1/2" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve	212.36	18.05
For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0274 EA 3/4" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve	249.13	24.29
For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0275 EA 1" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve	307.88	29.30
For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0276 EA 1-1/4" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve	501.55	37.10
For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0277 EA 1-1/2" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve	602.00	42.89
For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0278 EA 2" Class 800 Outside Stem And Yoke, Threaded, Chrome Trim, Bolted Bonnet, Forged Steel, Globe Valve	766.48	50.70
For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0279 Triple Duty Valves (23 05 23)		
Note: Valves function as a shut-off, check valve and calibrated balancing valve.		
23 05 23 00-0280 Straight Pattern, Triple Duty Valves (23 05 23 00-0279)		
Note: Bell & Gossett 3DX and 3DS-S Series.		
23 05 23 00-0281 EA 1" Threaded, Straight Pattern, Triple Duty Valve	304.47	11.70
23 05 23 00-0282 EA 1-1/4" Threaded, Straight Pattern, Triple Duty Valve	352.55	14.82
23 05 23 00-0283 EA 1-1/2" Threaded, Straight Pattern, Triple Duty Valve	382.57	17.16
23 05 23 00-0284 EA 2" Flanged, Straight Pattern, Triple Duty Valve	992.88	148.53
23 05 23 00-0285 EA 2-1/2" Flanged, Straight Pattern, Triple Duty Valve	1,118.99	148.78
23 05 23 00-0286 EA 3" Flanged, Straight Pattern, Triple Duty Valve	1,224.96	174.43
23 05 23 00-0287 EA 4" Flanged, Straight Pattern, Triple Duty Valve	2,509.65	292.42
23 05 23 00-0288 EA 5" Flanged, Straight Pattern Triple Duty Valve	2,937.35	327.80
23 05 23 00-0289 EA 6" Flanged, Straight Pattern, Triple Duty Valve	3,908.30	364.23
23 05 23 00-0290 EA 8" Flanged, Straight Pattern, Triple Duty Valve	5,263.48	465.40
23 05 23 00-0291 EA 10" Flanged, Straight Pattern, Triple Duty Valve	8,445.99	566.57
23 05 23 00-0292 Flanged, Angle Pattern, Triple Duty Valves (23 05 23 00-0279)		
Note: Bell & Gossett 3D-S Series.		
23 05 23 00-0293 EA 2" Flanged, Angle Pattern, Triple Duty Valve	969.68	148.53
23 05 23 00-0294 EA 2-1/2" Flanged, Angle Pattern, Triple Duty Valve	1,091.16	148.78
23 05 23 00-0295 EA 3" Flanged, Angle Pattern, Triple Duty Valve	1,201.77	174.43
23 05 23 00-0296 EA 4" Flanged, Angle Pattern, Triple Duty Valve	2,449.34	292.42
23 05 23 00-0297 EA 5" Flanged, Angle Pattern, Triple Duty Valve	2,863.13	327.80
23 05 23 00-0298 EA 6" Flanged, Angle Pattern, Triple Duty Valve	3,212.45	364.23
23 05 23 00-0299 EA 8" Flanged, Angle Pattern, Triple Duty Valve	4,934.11	465.40



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0300 EA 10" Flanged, Angle Pattern, Triple Duty Valve.....	6,595.04	566.57
23 05 23 00-0301 Balanced, Straight Pattern, Triple Duty Valves (23 05 23 00-0279) Note: Bell & Gossett 3DS-B Series.		
23 05 23 00-0302 EA 3" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	1,122.91	174.43
23 05 23 00-0303 EA 4" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	2,240.59	292.42
23 05 23 00-0304 EA 5" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	2,626.54	327.60
23 05 23 00-0305 EA 6" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	3,486.15	364.23
23 05 23 00-0306 EA 8" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	4,688.25	465.40
23 05 23 00-0307 EA 10" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	7,485.72	566.57
23 05 23 00-0308 EA 12" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	11,268.43	687.97
23 05 23 00-0309 EA 14" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	13,696.38	809.38
23 05 23 00-0310 EA 16" Flanged, Balanced, Straight Pattern, Triple Duty Valve.....	17,159.99	890.32
23 05 23 00-0311 Grooved Straight Pattern, Triple Duty Valves (23 05 23 00-0279) Note: Bell & Gossett 3DS-G Series.		
23 05 23 00-0312 EA 2" Grooved, Straight Pattern, Triple Duty Valve.....	1,061.24	27.52
23 05 23 00-0313 EA 2-1/2" Grooved, Straight Pattern, Triple Duty Valve.....	1,264.97	32.83
23 05 23 00-0314 EA 3" Grooved, Straight Pattern, Triple Duty Valve.....	1,472.88	35.60
23 05 23 00-0315 EA 4" Grooved, Straight Pattern, Triple Duty Valve.....	2,447.03	38.37
23 05 23 00-0316 EA 5" Grooved, Straight Pattern, Triple Duty Valve.....	2,837.07	51.60
23 05 23 00-0317 EA 6" Grooved, Straight Pattern Triple Duty Valve.....	3,782.48	66.17
23 05 23 00-0318 EA 8" Grooved, Straight Pattern Triple Duty Valve.....	5,144.80	83.98
23 05 23 00-0319 EA 10" Grooved, Straight Pattern Triple Duty Valve.....	8,120.65	94.09
23 05 23 00-0320 EA 12" Grooved, Straight Pattern Triple Duty Valve.....	12,895.30	114.73
23 05 23 00-0321 Plug Valves (23 05 23)		
23 05 23 00-0322 Plug Valves, Lubricated, Semisteel Screwed, Wrench Operated (23 05 23 00-0321) Note: Includes wrench.		
23 05 23 00-0323 EA 1/2" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	293.99	11.14
23 05 23 00-0324 EA 3/4" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	306.48	12.26
23 05 23 00-0325 EA 1" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	387.77	13.93
23 05 23 00-0326 EA 1-1/4" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	463.97	14.82
23 05 23 00-0327 EA 1-1/2" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	509.63	17.16
23 05 23 00-0328 EA 2" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	601.56	20.27
23 05 23 00-0329 EA 2-1/2" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	903.02	27.40
23 05 23 00-0330 EA 3" Diameter Plug Valve, Semi-Steel, Screwed Lubricated, 200 PSI, Wrench Operated, With Wrench.....	1,105.74	31.81
23 05 23 00-0331 Plug Valves, Lubricated, Semisteel Flanged (23 05 23 00-0321) Note: Wrench operated for 4", gear operated for 6" and 10".		
23 05 23 00-0332 EA 2" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	603.03	148.53
23 05 23 00-0333 EA 2-1/2" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	736.28	148.78
23 05 23 00-0334 EA 3" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	909.06	174.43
23 05 23 00-0335 EA 4" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	1,301.84	292.42
23 05 23 00-0336 EA 6" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	2,952.24	364.23
23 05 23 00-0337 EA 8" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	5,073.76	465.40
23 05 23 00-0338 EA 10" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	8,199.96	566.57
23 05 23 00-0339 EA 12" Diameter Plug Valve, Semi-Steel, Flanged, 175 PSI, Wrench Operated, With Wrench.....	12,229.90	687.97
23 05 23 00-0340 EA 14" Diameter Plug Valve, Semi-Steel, Flanged, 150 PSI, Wrench Operated, With Wrench.....	20,015.77	987.27
23 05 23 00-0341 EA 16" Diameter Plug Valve, Semi-Steel, Flanged, 150 PSI, Wrench Operated, With Wrench.....	21,396.92	1,086.00
23 05 23 00-0342 EA 18" Diameter Plug Valve, Semi-Steel, Flanged, 150 PSI, Wrench Operated, With Wrench.....	25,758.59	1,204.48
23 05 23 00-0343 EA 20" Diameter Plug Valve, Semi-Steel, Flanged, 150 PSI, Wrench Operated, With Wrench.....	33,122.17	1,357.50
23 05 23 00-0344 EA 24" Diameter Plug Valve, Semi-Steel, Flanged, 150 PSI, Wrench Operated, With Wrench.....	41,570.42	1,666.03
23 05 23 00-0345 Plug Valves, Forged Steel, Screwed (23 05 23 00-0321)		
23 05 23 00-0346 EA 1/2" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	1,139.67	11.14
23 05 23 00-0347 EA 3/4" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	1,346.08	12.26
23 05 23 00-0348 EA 1" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	1,521.48	13.93
23 05 23 00-0349 EA 1-1/4" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	1,825.22	14.82
23 05 23 00-0350 EA 1-1/2" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	2,125.55	17.16
23 05 23 00-0351 EA 2" Plug Valve, 1,500 LB, Forged Steel, Screwed.....	2,797.13	20.27
23 05 23 00-0352 Plug Valves, Eccentric, Cast Iron Flanged (23 05 23 00-0321)		
23 05 23 00-0353 EA 4" Diameter Plug Valve, Eccentric, Cast Iron, Flanged, 175 PSI.....	1,154.83	292.42
23 05 23 00-0354 EA 6" Diameter Plug Valve, Eccentric, Cast Iron, Flanged, 175 PSI.....	1,808.78	364.23
23 05 23 00-0355 EA 8" Diameter Plug Valve, Eccentric, Cast Iron, Flanged, 175 PSI.....	2,462.49	465.40
23 05 23 00-0356 EA 10" Diameter Plug Valve, Eccentric, Cast Iron, Flanged, 175 PSI.....	3,497.25	566.57
23 05 23 00-0357 EA 12" Diameter Plug Valve, Eccentric, Cast Iron, Flanged, 175 PSI.....	4,518.55	687.97
23 05 23 00-0358 Foot Valves (23 05 23)		
23 05 23 00-0359 Single Poppet Foot Valves, Metal To Metal Seat Construction (23 05 23 00-0358)		
23 05 23 00-0360 EA 1" Single Poppet Foot Valve, Metal To Metal Seat Construction.....	93.91	27.87

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0361 EA 1-1/4" Single Poppet Foot Valve, Metal To Metal Seat Construction.....	106.91	31.21
23 05 23 00-0362 EA 1-1/2" Single Poppet Foot Valve, Metal To Metal Seat Construction.....	137.73	35.67
23 05 23 00-0363 EA 2" Single Poppet Foot Valve, Metal To Metal Seat Construction.....	182.08	40.13
23 05 23 00-0364 EA 2-1/2" Single Poppet Foot Valve, Metal To Metal Seat Construction.....	418.70	65.76
23 05 23 00-0365 EA 3" Single Poppet Foot Valve, Metal To Metal Seat Construction.....	535.93	80.25
23 05 23 00-0366 Double Poppet Foot Valves, Metal To Metal Seat Construction (23 05 23 00-0358)		
23 05 23 00-0367 EA 1" Double Poppet Foot Valve, Metal To Metal Seat Construction.....	93.91	27.87
23 05 23 00-0368 EA 1-1/4" Double Poppet Foot Valve, Metal To Metal Seat Construction.....	206.02	31.21
23 05 23 00-0369 EA 1-1/2" Double Poppet Foot Valve, Metal To Metal Seat Construction.....	194.33	35.67
23 05 23 00-0370 EA 2" Double Poppet Foot Valve, Metal To Metal Seat Construction.....	265.05	40.13
23 05 23 00-0371 EA 3" Double Poppet Foot Valve, Metal To Metal Seat Construction.....	521.58	65.76
23 05 23 00-0372 EA 4" Double Poppet Foot Valve, Metal To Metal Seat Construction.....	710.49	79.14
23 05 23 00-0373 Float Valves (23 05 23)		
23 05 23 00-0374 Float Valve Assembly For Maintaining Liquid Level In Tanks (23 05 23 00-0373)		
23 05 23 00-0375 Single Seat, Bronze Construction (23 05 23 00-0374)		
Note: For storage tanks, reservoirs, cooling towers and filtration plants.		
23 05 23 00-0376 EA Inlet Size 1/2", Maximum PSI 100, Single Seat Float Valve.....	224.16	23.40
23 05 23 00-0377 EA Inlet Size 3/4", Maximum PSI 100, Single Seat Float Valve.....	256.81	27.86
23 05 23 00-0378 EA Inlet Size 1", Maximum PSI 100, Single Seat Float Valve.....	334.15	30.08
23 05 23 00-0379 EA Inlet Size 1-1/4", Maximum PSI 90, Single Seat Float Valve.....	559.26	37.88
23 05 23 00-0380 EA Inlet Size 1-1/2", Maximum PSI 90, Single Seat Float Valve.....	570.40	43.45
23 05 23 00-0381 Double Seat, Bronze Construction (23 05 23 00-0374)		
Note: For hot or cold water or oil to open tanks.		
23 05 23 00-0382 EA Pipe Size 1/2" Maximum PSI 150, Double Seat Float Valve.....	1,217.20	23.40
23 05 23 00-0383 EA Pipe Size 3/4" Maximum PSI 150, Double Seat Float Valve.....	1,226.12	27.86
23 05 23 00-0384 EA Pipe Size 1" Maximum PSI 150, Double Seat Float Valve.....	1,415.67	30.08
23 05 23 00-0385 EA Pipe Size 1-1/4" Maximum PSI 150, Double Seat Float Valve.....	1,564.27	37.88
23 05 23 00-0386 EA Pipe Size 1-1/2" Maximum PSI 150, Double Seat Float Valve.....	1,788.21	43.45
23 05 23 00-0387 EA Pipe Size 2" Maximum PSI 150, Double Seat Float Valve.....	2,346.46	51.25
23 05 23 00-0388 EA Pipe Size 2-1/2" Maximum PSI 150, Double Seat Float Valve.....	2,727.34	68.74
23 05 23 00-0389 EA Pipe Size 3" Maximum PSI 150, Double Seat Float Valve.....	3,280.89	79.00
23 05 23 00-0390 Float Valve Single Seated Balanced For Air Oil Or Water (23 05 23 00-0373)		
Note: Includes arm, ball and bracket.		
23 05 23 00-0391 Brass Body Threaded Ends (23 05 23 00-0390)		
23 05 23 00-0392 EA 1/2" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	234.43	30.19
23 05 23 00-0393 EA 3/4" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	265.12	33.54
23 05 23 00-0394 EA 1" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	329.07	37.10
23 05 23 00-0395 EA 1-1/4" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	525.89	59.95
23 05 23 00-0396 EA 1-1/2" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	549.95	68.30
23 05 23 00-0397 EA 2" Brass Body, Threaded Ends, Float Valve, Single Seated With Arm Ball And Bracket.....	618.02	84.68
23 05 23 00-0398 Cast Iron Body Flanged (23 05 23 00-0390)		
23 05 23 00-0399 EA 2-1/2" Cast Iron Body, Flanged, Float Valve, Single Seated With Arm Ball And Bracket.....	7,666.02	148.78
23 05 23 00-0400 EA 3" Cast Iron Body, Flanged, Float Valve, Single Seated With Arm Ball And Bracket.....	9,269.89	174.43
23 05 23 00-0401 Float Operated Valves (23 05 23 00-0373)		
23 05 23 00-0402 For Condensate Receivers Tanks And Vessels (23 05 23 00-0401)		
Note: Cast iron body, self-contained, float in-line mount.		
23 05 23 00-0403 EA 1" Inlet, Float Operated Valve, Single Seated With Arm Ball And Bracket.....	849.32	52.36
23 05 23 00-0404 For Condensate Receivers Tanks And Vessels (23 05 23 00-0401)		
Note: Cast iron body, external float tank mount, flanged.		
23 05 23 00-0405 EA 3/4" Inlet, Float Operated Valve, Single Seated With Arm Ball And Bracket.....	1,065.27	97.47
23 05 23 00-0406 Needle Valves (23 05 23)		
23 05 23 00-0407 Bronze Needle Valve (23 05 23 00-0406)		
Note: For heating and cooling applications.		
23 05 23 00-0408 EA 1/4" Needle Valve, Bronze.....	116.28	11.14
23 05 23 00-0409 EA 3/8" Needle Valve, Bronze.....	129.81	11.14
23 05 23 00-0410 EA 1/2" Needle Valve, Bronze.....	142.09	11.14
23 05 23 00-0411 EA 3/4" Needle Valve, Bronze.....	216.08	12.26
23 05 23 00-0412 EA 1" Needle Valve, Bronze.....	332.09	13.93
23 05 23 00-0413 Eccentric Valves With Taps (23 05 23)		



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0414			Screwed Eccentric Valves With Taps (23 05 23 00-0413)		
23 05 23 00-0415	EA		1/2" Diameter Eccentric Valves With Taps, Screwed.....	498.72	11.14
23 05 23 00-0416	EA		3/4" Diameter Eccentric Valves With Taps, Screwed.....	518.33	12.26
23 05 23 00-0417	EA		1" Diameter Eccentric Valves With Taps, Screwed.....	656.69	13.93
23 05 23 00-0418	EA		1-1/4" Diameter Eccentric Valves With Taps, Screwed.....	793.36	14.82
23 05 23 00-0419	EA		1-1/2" Diameter Eccentric Valves With Taps, Screwed.....	861.75	17.16
23 05 23 00-0420	EA		2" Diameter Eccentric Valves With Taps, Screwed.....	1,012.60	20.27
23 05 23 00-0421	EA		2-1/2" Diameter Eccentric Valves With Taps, Screwed.....	1,546.49	27.40
23 05 23 00-0422	EA		3" Diameter Eccentric Valves With Taps, Screwed.....	1,887.91	31.81
23 05 23 00-0423			Flanged Eccentric Valves With Taps (23 05 23 00-0413)		
23 05 23 00-0424	EA		2-1/2" Diameter Eccentric Valves With Taps, Flanged.....	1,859.67	148.78
23 05 23 00-0425	EA		3" Diameter Eccentric Valves With Taps, Flanged.....	2,211.80	174.43
23 05 23 00-0426	EA		4" Diameter Eccentric Valves With Taps, Flanged.....	2,893.91	292.42
23 05 23 00-0427	EA		5" Diameter Eccentric Valves With Taps, Flanged.....	3,968.92	327.80
23 05 23 00-0428	EA		6" Diameter Eccentric Valves With Taps, Flanged.....	5,084.65	364.23
23 05 23 00-0429	EA		8" Diameter Eccentric Valves With Taps, Flanged.....	8,943.66	465.40
23 05 23 00-0430	EA		10" Diameter Eccentric Valves With Taps, Flanged.....	12,633.53	566.57
23 05 23 00-0431	EA		12" Diameter Eccentric Valves With Taps, Flanged.....	22,039.24	687.97
23 05 23 00-0432			Earthquake-Sensitive Gas Shut-Off Valve (23 05 23)		
23 05 23 00-0433			0.5 PSI Threaded Earthquake Gas Shutoff Valves (23 05 23 00-0432)		
23 05 23 00-0434	EA		3/4" Diameter Threaded, 0.5 PSI Earthquake Gas Shutoff Valve.....	162.80	12.26
23 05 23 00-0435	EA		1" Diameter Threaded, 0.5 PSI Earthquake Gas Shutoff Valve.....	184.54	13.93
23 05 23 00-0436			7 PSI Threaded Earthquake Gas Shutoff Valves (23 05 23 00-0432)		
23 05 23 00-0437	EA		1-1/4" Diameter Threaded, 7 PSI Earthquake Gas Shutoff Valve.....	215.92	14.82
23 05 23 00-0438	EA		1-1/2" Diameter Threaded, 7 PSI Earthquake Gas Shutoff Valve.....	290.30	17.16
23 05 23 00-0439			60 PSI Threaded Earthquake Gas Shutoff Valves (23 05 23 00-0432)		
23 05 23 00-0440	EA		3/4" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	200.57	12.26
23 05 23 00-0441	EA		1" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	210.77	13.93
23 05 23 00-0442	EA		1-1/4" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	236.91	14.82
23 05 23 00-0443	EA		1-1/2" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	321.78	17.16
23 05 23 00-0444	EA		2" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	730.81	20.27
23 05 23 00-0445	EA		2-1/2" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	870.76	27.29
23 05 23 00-0446	EA		3" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	1,128.36	31.81
23 05 23 00-0447	EA		4" Diameter Threaded, 60 PSI Earthquake Gas Shutoff Valve.....	1,307.46	35.91
23 05 23 00-0448			60 PSI Flanged Earthquake Gas Shutoff Valves (23 05 23 00-0432)		
23 05 23 00-0449	EA		2" Flanged, 60 PSI Earthquake Gas Shutoff Valve.....	1,025.06	148.53
23 05 23 00-0450	EA		3" Flanged, 60 PSI Earthquake Gas Shutoff Valve.....	1,262.26	174.43
23 05 23 00-0451	EA		4" Flanged, 60 PSI Earthquake Gas Shutoff Valve.....	1,782.87	292.42
23 05 23 00-0452	EA		6" Flanged, 60 PSI Earthquake Gas Shutoff Valve.....	2,922.53	364.23
23 05 23 00-0453	EA		8" Flanged, 60 PSI Earthquake Gas Shutoff Valve.....	7,817.61	465.40
23 05 23 00-0454			Emergency Shut-Off Valve With Fusible Link (23 05 23)		
23 05 23 00-0455			Threaded, Fusible Brass Gate Valves (Morrison Bros. 939) (23 05 23 00-0454)		
			Note: Brass globe/gate valve used to shut off product flow in the event of a fire. Fusible element in the handwheel automatically closes the valve when in contact with 165° F.		
23 05 23 00-0456	EA		1/4" Diameter Threaded, Fusible Brass Gate Valve (Morrison Bros. 939 Series).....	82.37	17.94
			For Work In Restricted Working Space, Add.....	9.73	
23 05 23 00-0457	EA		3/8" Diameter Threaded, Fusible Brass Gate Valve (Morrison Bros. 939 Series).....	84.12	18.94
			For Work In Restricted Working Space, Add.....	10.26	
23 05 23 00-0458	EA		1/2" Diameter Threaded, Fusible Brass Gate Valve (Morrison Bros. 939 Series).....	138.69	17.94
			For Work In Restricted Working Space, Add.....	10.79	
23 05 23 00-0459	EA		3/4" Diameter Threaded, Fusible Brass Gate Valve (Morrison Bros. 939 Series).....	276.58	24.18
			For Work In Restricted Working Space, Add.....	14.53	
23 05 23 00-0460	EA		1" Diameter Threaded, Fusible Brass Gate Valve (Morrison Bros. 939 Series).....	705.43	29.30
			For Work In Restricted Working Space, Add.....	17.59	
23 05 23 00-0461			Threaded, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI) (23 05 23 00-0454)		
			Note: Ductile iron body, cap, seat and swing arm. Viton® encapsulated Teflon® o-ring, Teflon® gasket, and stainless steel spring.		
23 05 23 00-0462	EA		1-1/2" Diameter Threaded, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI).....	532.46	17.16
23 05 23 00-0463	EA		2" Diameter Threaded, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI).....	573.24	20.27
23 05 23 00-0464	EA		3" Diameter Threaded, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI).....	964.47	31.81

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 23 00-0465	Flanged, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI) (23 05 23 00-0454) Note: Ductile iron body, cap, seat and swing arm. Viton® encapsulated Teflon® o-ring, Teflon® gasket, and stainless steel spring.		
23 05 23 00-0466	EA 2" Diameter Flanged, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI).....	667.16	148.53
23 05 23 00-0467	EA 3" Diameter Flanged, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI).....	1,081.17	174.43
23 05 23 00-0468	EA 4" Diameter Flanged, Ductile Iron Emergency Gas Shutoff Valves (Morrison Bros. 346-DI).....	2,464.32	292.42
23 05 23 00-0469	Check Valves (23 05 23)		
23 05 23 00-0470	Iron Body Wafer Type Check Valve (23 05 23 00-0469)		
23 05 23 00-0471	Single Disk Type (23 05 23 00-0470)		
23 05 23 00-0472	EA 2" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	469.28	148.59
	For 150 LB Rating, Add	59.54	
	For 200 LB Rating, Add	70.88	
	For 300 LB Rating, Add	85.05	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	164.73	
23 05 23 00-0473	EA 2-1/2" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	558.10	148.87
	For 150 LB Rating, Add	78.00	
	For 200 LB Rating, Add	92.86	
	For 300 LB Rating, Add	111.43	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	204.48	
23 05 23 00-0474	EA 3" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	687.93	174.53
	For 150 LB Rating, Add	98.60	
	For 200 LB Rating, Add	117.38	
	For 300 LB Rating, Add	140.85	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	254.96	
23 05 23 00-0475	EA 4" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	1,002.56	292.59
	For 150 LB Rating, Add	133.54	
	For 200 LB Rating, Add	158.98	
	For 300 LB Rating, Add	190.77	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	359.49	
23 05 23 00-0476	EA 6" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	1,509.35	410.66
	For 150 LB Rating, Add	209.17	
	For 200 LB Rating, Add	249.01	
	For 300 LB Rating, Add	298.81	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	550.88	
23 05 23 00-0477	EA 8" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	2,116.72	472.25
	For 150 LB Rating, Add	320.99	
	For 200 LB Rating, Add	382.14	
	For 300 LB Rating, Add	458.56	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	805.48	
23 05 23 00-0478	EA 10" Check Valve, Single Disc Type, Iron Body Wafer Type, 125 LB.....	3,165.28	574.92
	For 150 LB Rating, Add	512.69	
	For 200 LB Rating, Add	610.35	
	For 300 LB Rating, Add	732.41	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	1,243.40	
23 05 23 00-0479	Twin Disc Type (23 05 23 00-0470)		
23 05 23 00-0480	EA 2" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	642.67	148.59
	For 150 LB Rating, Add	95.95	
	For 200 LB Rating, Add	114.22	
	For 300 LB Rating, Add	137.07	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	242.76	
23 05 23 00-0481	EA 2-1/2" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	734.98	148.87
	For 150 LB Rating, Add	115.15	
	For 200 LB Rating, Add	137.08	
	For 300 LB Rating, Add	164.50	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	284.08	
23 05 23 00-0482	EA 3" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	858.19	174.53
	For 150 LB Rating, Add	134.35	
	For 200 LB Rating, Add	159.94	
	For 300 LB Rating, Add	191.93	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	331.58	
23 05 23 00-0483	EA 4" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	1,179.11	292.59
	For 150 LB Rating, Add	170.61	
	For 200 LB Rating, Add	203.11	
	For 300 LB Rating, Add	243.74	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	438.93	
23 05 23 00-0484	EA 6" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	1,823.41	410.66
	For 150 LB Rating, Add	275.12	
	For 200 LB Rating, Add	327.53	
	For 300 LB Rating, Add	393.03	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	692.21	
23 05 23 00-0485	EA 8" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB.....	2,587.39	472.25
	For 150 LB Rating, Add	420.16	
	For 200 LB Rating, Add	500.19	
	For 300 LB Rating, Add	600.23	
	For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	1,017.67	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0486 EA 10" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB..... For 150 LB Rating, Add For 200 LB Rating, Add For 300 LB Rating, Add For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	3,887.51 665.40 792.15 950.57 1,569.65	564.64
23 05 23 00-0487 EA 12" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB..... For 150 LB Rating, Add For 200 LB Rating, Add For 300 LB Rating, Add For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	5,115.24 891.49 1,061.30 1,273.56 2,084.35	698.11
23 05 23 00-0488 EA 14" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB..... For 150 LB Rating, Add For 200 LB Rating, Add For 300 LB Rating, Add For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	9,737.90 1,812.82 2,158.12 2,589.74 4,105.70	829.08
23 05 23 00-0489 EA 16" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB..... For 150 LB Rating, Add For 200 LB Rating, Add For 300 LB Rating, Add For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	13,403.01 2,559.27 3,046.76 3,656.11 5,727.36	972.79
23 05 23 00-0490 EA 18" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB..... For 150 LB Rating, Add For 200 LB Rating, Add For 300 LB Rating, Add For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	17,897.96 3,474.84 4,136.72 4,964.06 7,716.31	1,083.34
23 05 23 00-0491 EA 20" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB..... For 150 LB Rating, Add For 200 LB Rating, Add For 300 LB Rating, Add For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	21,307.98 4,155.48 4,947.00 5,936.40 9,208.60	1,215.99
23 05 23 00-0492 EA 24" Check Valve, Twin Disc Type, Iron Body Wafer Type, 125 LB..... For 150 LB Rating, Add For 200 LB Rating, Add For 300 LB Rating, Add For 300 LB Rating, Cast Steel, Weld End, Wedge, Add	27,871.50 5,460.16 6,500.19 7,800.23 12,074.49	1,492.34
23 05 23 00-0493 Lift Check Valves (23 05 23 00-0493)		
23 05 23 00-0494 Bronze Body, Threaded, Vertical Lift Check Valves (23 05 23 00-0493) Note: Watts #600 series.		
23 05 23 00-0495 EA 3/8" Lift Check Valve, Bronze, Threaded.....	119.61	11.14
23 05 23 00-0496 EA 1/2" Lift Check Valve, Bronze, Threaded.....	126.58	11.14
23 05 23 00-0497 EA 3/4" Lift Check Valve, Bronze, Threaded.....	161.32	11.70
23 05 23 00-0498 EA 1" Lift Check Valve, Bronze, Threaded.....	212.69	11.70
23 05 23 00-0499 EA 1-1/4" Lift Check Valve, Bronze, Threaded.....	295.09	14.82
23 05 23 00-0500 EA 1-1/2" Lift Check Valve, Bronze, Threaded.....	359.12	17.16
23 05 23 00-0501 EA 2" Lift Check Valve, Bronze, Threaded.....	512.38	20.27
23 05 23 00-0502 Bronze Body, Threaded, 300 LB, Lift Check Valves (23 05 23 00-0493) Note: Crane 366E.		
23 05 23 00-0503 EA 1/2" Lift Check Valve, Bronze, Threaded, 300 LB.....	745.81	11.14
23 05 23 00-0504 EA 3/4" Lift Check Valve, Bronze, Threaded, 300 LB.....	905.79	11.70
23 05 23 00-0505 EA 1" Lift Check Valve, Bronze, Threaded, 300 LB.....	1,625.89	11.70
23 05 23 00-0506 EA 1-1/4" Lift Check Valve, Bronze, Threaded, 300 LB.....	2,167.01	14.82
23 05 23 00-0507 EA 1-1/2" Lift Check Valve, Bronze, Threaded, 300 LB.....	2,353.62	17.16
23 05 23 00-0508 EA 2" Lift Check Valve, Bronze, Threaded, 300 LB.....	3,023.70	20.27
23 05 23 00-0509 Iron Body, Flanged, 125 LB Vertical Lift Check Valves (23 05 23 00-0493) Note: Mueller 105MAP.		
23 05 23 00-0510 EA 2" Lift Check Valve, Iron Body, Flanged, 125 LB.....	1,085.56	148.53
23 05 23 00-0511 EA 2-1/2" Lift Check Valve, Iron Body, Flanged, 125 LB.....	1,630.69	148.78
23 05 23 00-0512 EA 3" Lift Check Valve, Iron Body, Flanged, 125 LB.....	1,775.41	174.43
23 05 23 00-0513 EA 4" Lift Check Valve, Iron Body, Flanged, 125 LB.....	2,458.96	292.42
23 05 23 00-0514 EA 5" Lift Check Valve, Iron Body, Flanged, 125 LB.....	3,100.90	327.80
23 05 23 00-0515 EA 6" Lift Check Valve, Iron Body, Flanged, 125 LB.....	3,829.00	364.23
23 05 23 00-0516 EA 8" Lift Check Valve, Iron Body, Flanged, 125 LB.....	6,750.06	465.40
23 05 23 00-0517 EA 10" Lift Check Valve, Iron Body, Flanged, 125 LB.....	8,478.98	566.57
23 05 23 00-0518 EA 12" Lift Check Valve, Iron Body, Flanged, 125 LB.....	13,786.81	687.97
23 05 23 00-0519 EA 14" Lift Check Valve, Iron Body, Flanged, 125 LB.....	18,848.52	987.27
23 05 23 00-0520 EA 16" Lift Check Valve, Iron Body, Flanged, 125 LB.....	20,887.61	1,086.00
23 05 23 00-0521 Bronze Body Swing Check Valves (23 05 23 00-0469)		
23 05 23 00-0522 Bronze Body, Threaded, Brazed Or Soldered Installation, 125 LB, Swing Check Valves (23 05 23 00-0521)		
23 05 23 00-0523 EA 1/8" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB..... For 300 LB Rating, Add For Work In Restricted Working Space, Add	80.82 17.50 10.79	11.14

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0524	EA	1/4" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	77.31	11.14
		For 300 LB Rating, Add	17.50	
		For Work In Restricted Working Space, Add	9.73	
23 05 23 00-0525	EA	3/8" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	79.02	11.14
		For 300 LB Rating, Add	17.50	
		For Work In Restricted Working Space, Add	10.25	
23 05 23 00-0526	EA	1/2" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	82.57	11.14
		For 300 LB Rating, Add	18.18	
		For Work In Restricted Working Space, Add	10.79	
23 05 23 00-0527	EA	3/4" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	104.93	11.70
		For 300 LB Rating, Add	22.03	
		For Work In Restricted Working Space, Add	14.53	
23 05 23 00-0528	EA	1" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	135.35	11.70
		For 300 LB Rating, Add	29.92	
		For Work In Restricted Working Space, Add	17.59	
23 05 23 00-0529	EA	1-1/4" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	181.95	14.82
		For 300 LB Rating, Add	41.99	
		For Work In Restricted Working Space, Add	22.28	
23 05 23 00-0530	EA	1-1/2" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	236.49	17.16
		For 300 LB Rating, Add	58.80	
		For Work In Restricted Working Space, Add	25.71	
23 05 23 00-0531	EA	2" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	295.15	20.27
		For 300 LB Rating, Add	75.61	
		For Work In Restricted Working Space, Add	30.39	
23 05 23 00-0532	EA	2-1/2" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	582.46	27.40
		For 300 LB Rating, Add	173.80	
		For Work In Restricted Working Space, Add	41.04	
23 05 23 00-0533	EA	3" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	791.67	31.81
		For 300 LB Rating, Add	247.19	
		For Work In Restricted Working Space, Add	47.36	
23 05 23 00-0534	EA	4" Swing Check Valve, Bronze, Threaded, Brazed Or Soldered, 125 LB	896.80	35.91
		For 300 LB Rating, Add	279.72	
		For Work In Restricted Working Space, Add	53.87	
23 05 23 00-0535		125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves (23 05 23 00-0469)		
23 05 23 00-0536	EA	1" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	516.82	83.56
		For 150 LB Rating, Add	279.96	
		For 250 LB Rating, Add	535.22	
		For Work In Restricted Working Space, Add	31.53	
23 05 23 00-0537	EA	1-1/4" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	574.69	97.49
		For 150 LB Rating, Add	308.43	
		For 250 LB Rating, Add	589.65	
		For Work In Restricted Working Space, Add	36.33	
23 05 23 00-0538	EA	1-1/2" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	638.56	116.99
		For 150 LB Rating, Add	334.53	
		For 250 LB Rating, Add	639.55	
		For Work In Restricted Working Space, Add	43.98	
23 05 23 00-0539	EA	2" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	796.71	148.53
		For 150 LB Rating, Add	415.49	
		For 250 LB Rating, Add	794.31	
		For Work In Restricted Working Space, Add	55.71	
23 05 23 00-0540	EA	2-1/2" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	899.64	148.78
		For 150 LB Rating, Add	484.89	
		For 250 LB Rating, Add	927.00	
		For Work In Restricted Working Space, Add	55.97	
23 05 23 00-0541	EA	3" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	993.22	174.43
		For 150 LB Rating, Add	526.94	
		For 250 LB Rating, Add	1,007.38	
		For Work In Restricted Working Space, Add	65.49	
23 05 23 00-0542	EA	4" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	1,564.02	292.42
		For 150 LB Rating, Add	814.35	
		For 250 LB Rating, Add	1,556.84	
		For Work In Restricted Working Space, Add	109.94	
23 05 23 00-0543	EA	5" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	2,167.39	327.80
		For 150 LB Rating, Add	1,195.62	
		For 250 LB Rating, Add	2,285.75	
		For Work In Restricted Working Space, Add	122.74	
23 05 23 00-0544	EA	6" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	2,495.54	364.23
		For 150 LB Rating, Add	1,386.27	
		For 250 LB Rating, Add	2,650.22	
		For Work In Restricted Working Space, Add	137.07	
23 05 23 00-0545	EA	8" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	5,667.84	465.40
		For 150 LB Rating, Add	3,461.00	
		For 250 LB Rating, Add	6,616.62	
		For Work In Restricted Working Space, Add	173.44	
23 05 23 00-0546	EA	10" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	7,636.38	566.57
		For 150 LB Rating, Add	4,711.16	
		For 250 LB Rating, Add	9,006.63	
		For Work In Restricted Working Space, Add	212.46	
23 05 23 00-0547	EA	12" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves	11,662.60	687.97
		For 150 LB Rating, Add	7,346.84	
		For 250 LB Rating, Add	14,045.42	
		For Work In Restricted Working Space, Add	257.53	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0548 EA 14" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	13,465.89 8,317.62 15,901.34 370.23	987.27
23 05 23 00-0549 EA 16" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	19,173.03 12,114.56 23,160.19 407.25	1,086.00
23 05 23 00-0550 EA 18" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	29,506.60 19,040.69 36,401.31 451.68	1,204.48
23 05 23 00-0551 EA 20" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	40,669.59 26,501.44 50,664.52 509.06	1,357.50
23 05 23 00-0552 EA 24" 125 LB Flanged, Iron Body, Bronze Trim, Swing Check Valves For 150 LB Rating, Add For 250 LB Rating, Add For Work In Restricted Working Space, Add	56,641.89 37,100.36 70,927.16 624.76	1,666.03
23 05 23 00-0553 Class 800 Forged Steel, Screwed, Chrome Trim, Bolted Bonnet, Piston Check, Swing Check Valves (23 05 23 00-0469) Note: 800 PSIG at 850 Degrees F.		
23 05 23 00-0554 EA 1/2" Class 800, Threaded, Forged Steel Swing Check Valve For Work In Restricted Working Space, Add	191.32 10.79	11.14
23 05 23 00-0555 EA 3/4" 800, Threaded, Forged Steel Swing Check Valve For Work In Restricted Working Space, Add	224.85 14.53	12.26
23 05 23 00-0556 EA 1" Class 800, Threaded, Forged Steel Swing Check Valve For Work In Restricted Working Space, Add	265.80 17.59	13.93
23 05 23 00-0557 EA 1-1/4" Class 800, Threaded, Forged Steel Swing Check Valve For Work In Restricted Working Space, Add	413.08 22.28	14.82
23 05 23 00-0558 EA 1-1/2" 800, Threaded, Forged Steel Swing Check Valve For Work In Restricted Working Space, Add	490.33 25.71	17.16
23 05 23 00-0559 EA 2" Class 800, Threaded, Forged Steel Swing Check Valve For Work In Restricted Working Space, Add	664.52 30.39	20.27
23 05 23 00-0560 Plastic Check Valve (23 05 23 00-0469)		
23 05 23 00-0561 Polyvinyl Chloride (PVC) Check Valve (23 05 23 00-0560)		
23 05 23 00-0562 Polyvinyl Chloride (PVC) "Y" Check Valve (23 05 23 00-0561)		
23 05 23 00-0563 EA 1/2" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket	93.97	11.14
23 05 23 00-0564 EA 3/4" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket	110.74	12.26
23 05 23 00-0565 EA 1" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket	127.02	13.93
23 05 23 00-0566 EA 1-1/4" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket	181.77	14.82
23 05 23 00-0567 EA 1-1/2" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket	202.16	17.16
23 05 23 00-0568 EA 2" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket	331.87	18.67
23 05 23 00-0569 EA 2-1/2" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket	424.45	27.40
23 05 23 00-0570 EA 3" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket	464.40	31.81
23 05 23 00-0571 EA 4" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Threaded Or Socket	681.18	35.91
23 05 23 00-0572 EA 3" Polyvinyl Chloride (PVC) "Y" Type Check Valve, Flanged	648.27	174.43
23 05 23 00-0573 Polyvinyl Chloride (PVC) True Union Ball Check Valve (23 05 23 00-0561)		
23 05 23 00-0574 Valves (23 05 23 00-0573)		
23 05 23 00-0575 EA 1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	70.78	11.14
23 05 23 00-0576 EA 3/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	88.25	12.26
23 05 23 00-0577 EA 1" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	108.40	13.93
23 05 23 00-0578 EA 1-1/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve	140.63	14.82
23 05 23 00-0579 EA 1-1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve	165.33	17.16
23 05 23 00-0580 EA 2" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	245.61	20.27
23 05 23 00-0581 EA 3" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	403.88	27.40
23 05 23 00-0582 EA 4" Polyvinyl Chloride (PVC) True Union Ball Check Valve.....	693.64	31.81
23 05 23 00-0583 Foot Valve Screen (23 05 23 00-0573) Note: For use with PVC true union ball check valves above.		
23 05 23 00-0584 EA 1/2" Foot Valve Screen Option	59.16	
23 05 23 00-0585 EA 3/4" Foot Valve Screen Option	70.74	
23 05 23 00-0586 EA 1" Foot Valve Screen Option	81.97	
23 05 23 00-0587 EA 1-1/4" Foot Valve Screen Option	123.75	
23 05 23 00-0588 EA 1-1/2" Foot Valve Screen Option	136.92	
23 05 23 00-0589 EA 2" Foot Valve Screen Option	148.15	
23 05 23 00-0590 EA 2-1/2" Foot Valve Screen Option	176.76	
23 05 23 00-0591 EA 3" Foot Valve Screen Option	205.38	
23 05 23 00-0592 EA 4" Foot Valve Screen Option	249.26	
23 05 23 00-0593 Hayward "True Check" With VITON Seals (23 05 23 00-0573)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0594 EA 1/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	63.96	11.14
23 05 23 00-0595 EA 3/8" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	65.67	11.14
23 05 23 00-0596 EA 1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	71.61	11.14
23 05 23 00-0597 EA 3/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	88.17	12.26
23 05 23 00-0598 EA 1" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	109.57	13.93
23 05 23 00-0599 EA 1-1/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	140.55	14.82
23 05 23 00-0600 EA 1-1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	170.31	17.16
23 05 23 00-0601 EA 2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	214.09	20.27
23 05 23 00-0602 EA 2-1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	398.90	27.40
23 05 23 00-0603 EA 3" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	436.53	31.81
23 05 23 00-0604 EA 4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	694.62	35.91
23 05 23 00-0605 Hayward "True Check" With Ethylene Propylene Diene Monomer (EPDM) Seals (23 05 23 00-0573)		
23 05 23 00-0606 EA 1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	67.47	11.14
23 05 23 00-0607 EA 3/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	84.10	12.26
23 05 23 00-0608 EA 1" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	103.93	13.93
23 05 23 00-0609 EA 1-1/4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	134.41	14.82
23 05 23 00-0610 EA 1-1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	159.03	17.16
23 05 23 00-0611 EA 2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	204.14	20.27
23 05 23 00-0612 EA 2-1/2" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	383.97	27.40
23 05 23 00-0613 EA 3" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	424.09	31.81
23 05 23 00-0614 EA 4" Polyvinyl Chloride (PVC) True Union Ball Check Valve, Socket Or Threaded.....	675.54	35.91
23 05 23 00-0615 Polyvinyl Chloride (PVC) Check Valve, Ethylene Propylene Diene Monomer (EPDM) Housing, Flanged (23 05 23 00-0561)		
23 05 23 00-0616 EA 1" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing.....	341.10	66.86
23 05 23 00-0617 EA 1-1/4" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing.....	371.29	77.99
23 05 23 00-0618 EA 1-1/2" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing.....	407.14	97.49
23 05 23 00-0619 EA 2" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing.....	495.85	122.56
23 05 23 00-0620 EA 2-1/2" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing.....	599.69	123.20
23 05 23 00-0621 EA 3" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing.....	821.11	143.72
23 05 23 00-0622 EA 4" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing.....	1,131.60	243.82
23 05 23 00-0623 EA 6" Thermoplastic Check Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Housing.....	1,858.17	410.66
23 05 23 00-0624 Swing Check Valves, 150 LB Polyvinyl Chloride (PVC) Socket Weld End Connections (23 05 23 00-0560)		
23 05 23 00-0625 EA 1/2" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	79.41	11.14
For Work In Restricted Working Space, Add.....	10.79	
23 05 23 00-0626 EA 3/4" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	91.90	12.26
For Work In Restricted Working Space, Add.....	14.53	
23 05 23 00-0627 EA 1" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	103.81	13.93
For Work In Restricted Working Space, Add.....	17.59	
23 05 23 00-0628 EA 1-1/4" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	121.32	14.82
For Work In Restricted Working Space, Add.....	22.28	
23 05 23 00-0629 EA 1-1/2" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	135.47	17.16
For Work In Restricted Working Space, Add.....	25.71	
23 05 23 00-0630 EA 2" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	178.65	20.27
For Work In Restricted Working Space, Add.....	30.39	
23 05 23 00-0631 EA 2-1/2" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	246.95	27.40
For Work In Restricted Working Space, Add.....	41.04	
23 05 23 00-0632 EA 3" Check Valve, Duplex Polyvinyl Chloride (PVC), Socket Weld, 150 LB.....	300.78	31.81
For Work In Restricted Working Space, Add.....	47.36	
23 05 23 00-0633 Polyvinyl Chloride (PVC) Body, Swing Check Valves (23 05 23 00-0560)		
23 05 23 00-0634 Polyvinyl Chloride (PVC) Body, Swing Check Valves With Ethylene Propylene Diene Monomer (EPDM) Seals (23 05 23 00-0633)		
23 05 23 00-0635 EA 3" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals.....	646.03	143.64
For Work In Restricted Working Space, Add.....	54.97	
23 05 23 00-0636 EA 4" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals.....	819.33	243.68
For Work In Restricted Working Space, Add.....	90.53	
23 05 23 00-0637 EA 6" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals.....	1,327.27	303.52
For Work In Restricted Working Space, Add.....	124.98	
23 05 23 00-0638 EA 8" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals.....	1,773.97	384.45
For Work In Restricted Working Space, Add.....	141.64	
23 05 23 00-0639 Polyvinyl Chloride (PVC) Body, Swing Check Valves With Viton Seals (23 05 23 00-0633)		



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0640 EA 3" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals <i>For Work In Restricted Working Space, Add</i>	765.46 54.97	143.64
23 05 23 00-0641 EA 4" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals <i>For Work In Restricted Working Space, Add</i>	1,083.07 90.53	243.68
23 05 23 00-0642 EA 6" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals <i>For Work In Restricted Working Space, Add</i>	1,577.09 124.98	303.52
23 05 23 00-0643 EA 8" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals <i>For Work In Restricted Working Space, Add</i>	2,072.55 141.64	384.45
23 05 23 00-0644 Polyvinyl Chloride (PVC) Body, Swing Check Valves With Ethylene Propylene Diene Monomer (EPDM) Seals And Counter Weights (23 05 23 00-0633)		
23 05 23 00-0645 EA 3" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals And Counter weights..... <i>For Work In Restricted Working Space, Add</i>	796.98 54.97	143.64
23 05 23 00-0646 EA 4" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals And Counter weights..... <i>For Work In Restricted Working Space, Add</i>	1,085.56 90.53	243.68
23 05 23 00-0647 EA 6" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals And Counter weights..... <i>For Work In Restricted Working Space, Add</i>	1,466.61 124.98	303.52
23 05 23 00-0648 EA 8" Polyvinyl Chloride (PVC) Swing Check Valve, With Ethylene Propylene Diene Monomer (EPDM) Seals And Counter weights..... <i>For Work In Restricted Working Space, Add</i>	1,888.76 141.64	384.45
23 05 23 00-0649 Polyvinyl Chloride (PVC) Body, Swing Check Valves With Viton Seals And Counter Weights (23 05 23 00-0633)		
23 05 23 00-0650 EA 3" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals And Counter Weights <i>For Work In Restricted Working Space, Add</i>	896.50 54.97	143.64
23 05 23 00-0651 EA 4" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals And Counter Weights <i>For Work In Restricted Working Space, Add</i>	1,230.71 90.53	243.68
23 05 23 00-0652 EA 6" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals And Counter Weights <i>For Work In Restricted Working Space, Add</i>	1,673.96 124.98	303.52
23 05 23 00-0653 EA 8" Polyvinyl Chloride (PVC) Swing Check Valve, With Viton Seals And Counter Weights <i>For Work In Restricted Working Space, Add</i>	2,137.58 141.64	384.45
23 05 23 00-0654 Diaphragm Valves (23 05 23)		
23 05 23 00-0655 Polytetrafluoroethylene (PTFE) Or Viton Lined, Threaded Cast Iron Diaphragm Valves (23 05 23 00-0654)		
23 05 23 00-0656 EA 1/2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	282.32	33.34
23 05 23 00-0657 EA 3/4" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	363.36	36.94
23 05 23 00-0658 EA 1" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	392.61	45.66
23 05 23 00-0659 EA 1-1/2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	624.29	68.23
23 05 23 00-0660 EA 2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	1,012.15	82.08
23 05 23 00-0661 Polytetrafluoroethylene (PTFE) Or Viton Lined, Flanged Cast Iron Diaphragm Valves (23 05 23 00-0654)		
23 05 23 00-0662 EA 1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	372.85	53.48
23 05 23 00-0663 EA 3/4" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	436.49	55.71
23 05 23 00-0664 EA 1" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	512.08	83.56
23 05 23 00-0665 EA 1-1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	779.64	116.99
23 05 23 00-0666 EA 2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	1,258.03	148.53
23 05 23 00-0667 EA 2-1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	1,625.52	148.78
23 05 23 00-0668 EA 3" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	2,023.82	174.43
23 05 23 00-0669 EA 4" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	2,844.99	292.42
23 05 23 00-0670 EA 6" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	6,009.74	364.23
23 05 23 00-0671 EA 8" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Polytetrafluoroethylene (PTFE) or Viton Lined, Hand Wheel Operated	9,383.56	465.40
23 05 23 00-0672 Ethylene Propylene Diene Monomer (EPDM) Lined, Threaded Cast Iron Diaphragm Valves (23 05 23 00-0654)		
23 05 23 00-0673 EA 1/2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	170.05	33.34

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0674	EA	3/4" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	224.48	36.94
23 05 23 00-0675	EA	1" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	253.73	45.66
23 05 23 00-0676	EA	1-1/2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	435.17	68.23
23 05 23 00-0677	EA	2" Diaphragm Valve, Cast Iron, 150 LB, Threaded, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	571.88	82.08
23 05 23 00-0678 Ethylene Propylene Diene Monomer (EPDM) Lined, Flanged Cast Iron Diaphragm Valves (23 05 23 00-0654)				
23 05 23 00-0679	EA	1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	244.50	53.48
23 05 23 00-0680	EA	3/4" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	284.71	55.71
23 05 23 00-0681	EA	1" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	360.28	83.56
23 05 23 00-0682	EA	1-1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	572.95	116.99
23 05 23 00-0683	EA	2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	776.76	148.53
23 05 23 00-0684	EA	2-1/2" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	957.18	148.78
23 05 23 00-0685	EA	3" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	1,167.91	174.43
23 05 23 00-0686	EA	4" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	1,836.06	292.42
23 05 23 00-0687	EA	6" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	3,749.38	364.23
23 05 23 00-0688	EA	8" Diaphragm Valve, Cast Iron, 150 LB, Flanged, Ethylene Propylene Diene Monomer (EPDM) Lined, Hand Wheel Operated	5,798.43	465.40
23 05 23 00-0689 125 LB, Hand Wheel Operated, Flanged Cast Iron Diaphragm Valves (23 05 23 00-0654)				
23 05 23 00-0690	EA	1" Diaphragm Valve, Cast Iron, 125 LB, Flanged	466.36	83.56
23 05 23 00-0691	EA	1-1/2" Diaphragm Valve, Cast Iron, 125 LB, Flanged	762.85	116.99
23 05 23 00-0692	EA	2" Diaphragm Valve, Cast Iron, 125 LB, Flanged	1,030.37	148.53
23 05 23 00-0693	EA	2-1/2" Diaphragm Valve, Cast Iron, 125 LB, Flanged	1,504.02	148.78
23 05 23 00-0694	EA	3" Diaphragm Valve, Cast Iron, 125 LB, Flanged	1,657.94	174.43
23 05 23 00-0695	EA	4" Diaphragm Valve, Cast Iron, 125 LB, Flanged	2,592.31	292.42
23 05 23 00-0696	EA	6" Diaphragm Valve, Cast Iron, 125 LB, Flanged	5,291.11	364.23
23 05 23 00-0697	EA	8" Diaphragm Valve, Cast Iron, 125 LB, Flanged	11,107.07	465.40
23 05 23 00-0698 Plastic Diaphragm Valves (23 05 23 00-0654)				
23 05 23 00-0699 Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valves (23 05 23 00-0698)				
23 05 23 00-0700	EA	1/2" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	187.72	33.34
23 05 23 00-0701	EA	3/4" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	209.81	36.84
23 05 23 00-0702	EA	1" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	265.39	45.66
23 05 23 00-0703	EA	1-1/4" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	385.06	59.00
23 05 23 00-0704	EA	1-1/2" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	405.46	68.34
23 05 23 00-0705	EA	2" Polyvinyl Chloride (PVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 314)	475.97	82.08
23 05 23 00-0706 Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valves (23 05 23 00-0698)				
23 05 23 00-0707	EA	1/2" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	264.03	33.34
23 05 23 00-0708	EA	3/4" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	287.78	36.84
23 05 23 00-0709	EA	1" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	366.58	45.66
23 05 23 00-0710	EA	1-1/4" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	474.63	59.00
23 05 23 00-0711	EA	1-1/2" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	531.52	68.34
23 05 23 00-0712	EA	2" Chlorinated Polyvinyl Chloride (CPVC), True Union Socket Connections, Diaphragm Valve (George Fisher Type 315)	578.82	82.08
23 05 23 00-0713 Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0698)				
23 05 23 00-0714 Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0713)				
23 05 23 00-0715	EA	1/2" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	131.13	33.34
23 05 23 00-0716	EA	3/4" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	146.86	36.94
23 05 23 00-0717	EA	1" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	182.58	45.66
23 05 23 00-0718	EA	1-1/4" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	257.36	59.00
23 05 23 00-0719	EA	1-1/2" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	275.83	68.23



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0720 EA 2" Threaded, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve.....	329.34	82.08
23 05 23 00-0721 Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0713)		
23 05 23 00-0722 EA 1/2" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	131.13	33.34
23 05 23 00-0723 EA 3/4" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	146.86	36.94
23 05 23 00-0724 EA 1" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	182.88	45.66
23 05 23 00-0725 EA 1-1/4" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	257.36	59.00
23 05 23 00-0726 EA 1-1/2" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	275.83	68.23
23 05 23 00-0727 EA 2" Socket, Viton Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	329.34	82.08
23 05 23 00-0728 Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0698)		
23 05 23 00-0729 Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0728)		
23 05 23 00-0730 EA 1/2" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	118.22	33.34
23 05 23 00-0731 EA 3/4" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	131.89	36.94
23 05 23 00-0732 EA 1" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	164.30	45.66
23 05 23 00-0733 EA 1-1/4" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	229.49	59.00
23 05 23 00-0734 EA 1-1/2" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	247.96	68.23
23 05 23 00-0735 EA 2" Threaded, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	296.32	82.08
23 05 23 00-0736 Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0728)		
23 05 23 00-0737 EA 1/2" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	118.22	33.34
23 05 23 00-0738 EA 3/4" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	131.89	36.94
23 05 23 00-0739 EA 1" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	164.30	45.66
23 05 23 00-0740 EA 1-1/4" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	229.49	59.00
23 05 23 00-0741 EA 1-1/2" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	247.96	68.23
23 05 23 00-0742 EA 2" Socket, Ethylene Propylene Diene Monomer (EPDM) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	296.32	82.08
23 05 23 00-0743 Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0698)		
23 05 23 00-0744 Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0743)		
23 05 23 00-0745 EA 1/2" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	150.44	33.34
23 05 23 00-0746 EA 3/4" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	162.96	36.94
23 05 23 00-0747 EA 1" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	222.44	45.66
23 05 23 00-0748 EA 1-1/4" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	296.61	59.00
23 05 23 00-0749 EA 1-1/2" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	315.08	68.23
23 05 23 00-0750 EA 2" Threaded, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	382.01	82.08
23 05 23 00-0751 Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valves (23 05 23 00-0743)		
23 05 23 00-0752 EA 1/2" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	150.44	33.34
23 05 23 00-0753 EA 3/4" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	162.96	36.94
23 05 23 00-0754 EA 1" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	222.44	45.66
23 05 23 00-0755 EA 1-1/4" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	296.58	59.00
23 05 23 00-0756 EA 1-1/2" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	315.08	68.23
23 05 23 00-0757 EA 2" Socket, Polytetrafluoroethylene (PTFE) Diaphragm, Polyvinyl Chloride (PVC) Diaphragm Valve	382.01	82.08
23 05 23 00-0758 Solenoid Valves (23 05 23)		
23 05 23 00-0759 Bronze Body Solenoid Valves, 150 PSI Maximum Water Pressure (23 05 23 00-0758)		
23 05 23 00-0760 EA 1/4" Solenoid Valve, Bronze, 150 PSI, Water	134.35	11.14
23 05 23 00-0761 EA 1/2" Solenoid Valve, Bronze, 150 PSI, Water	156.11	11.14
23 05 23 00-0762 EA 3/4" Solenoid Valve, Bronze, 150 PSI, Water	199.55	12.26
23 05 23 00-0763 EA 1" Solenoid Valve, Bronze, 150 PSI, Water	295.32	13.93
23 05 23 00-0764 EA 1-1/2" Solenoid Valve, Bronze, 150 PSI, Water	522.65	17.16
23 05 23 00-0765 EA 2" Solenoid Valve, Bronze, 150 PSI, Water	821.69	20.27
23 05 23 00-0766 EA 2-1/2" Solenoid Valve, Bronze, 150 PSI, Water	1,119.31	27.40
23 05 23 00-0767 EA 3" Solenoid Valve, Bronze, 150 PSI, Water	1,627.81	31.81

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 23 00-0768	Flow Control Valves And Meters (23 05 23)		
23 05 23 00-0769	Conditioned Water Balancing Valves (23 05 23 00-0768)		
	Note: Working pressures up to 300 PSIG. Iron and bronze body construction (combination balancing, flow measuring and shut-off). Excludes portable read-out meter.		
23 05 23 00-0770	EA	1/2" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	169.79 56.85
23 05 23 00-0771	EA	3/4" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	202.71 75.80
23 05 23 00-0772	EA	1" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	1,352.46 86.61
23 05 23 00-0773	EA	1-1/4" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	1,454.67 107.01
23 05 23 00-0774	EA	1-1/2" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	1,557.65 113.70
23 05 23 00-0775	EA	2" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	1,665.33 129.97
23 05 23 00-0776	EA	2-1/2" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	2,957.48 226.27
23 05 23 00-0777	EA	3" NPT Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	2,846.85 258.61
23 05 23 00-0778	EA	3" Flanged Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	2,567.91 174.53
23 05 23 00-0779	EA	4" Flanged Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	3,563.30 292.59
23 05 23 00-0780	EA	6" Flanged Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	5,559.84 369.59
23 05 23 00-0781	EA	8" Flanged Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	7,501.82 472.25
23 05 23 00-0782	EA	10" Flanged Flow Control Valve, Iron And Bronze, Water Balancing Valve With Pressures Up To 300 PSIG	10,716.07 574.92
23 05 23 00-0783	Read Out Meters (23 05 23 00-0768)		
	Note: For use with conditioned portable water balancing valves.		
23 05 23 00-0784	EA	0.5 - 25% Accuracy Read Out Meter For Use With Portable Water Balancing Valve	1,338.74
23 05 23 00-0785	EA	0.5 - 50% Accuracy Read Out Meter For Use With Portable Water Balancing Valve	1,811.71
23 05 23 00-0786	EA	0.5 - 75% Accuracy Read Out Meter For Use With Portable Water Balancing Valve	1,811.71
23 05 23 00-0787	EA	0.5 - 100% Accuracy Read Out Meter For Use With Portable Water Balancing Valve	1,811.71
23 05 23 00-0788	Balancing Valves (23 05 23)		
23 05 23 00-0789	Balancing Valves With Lever (23 05 23 00-0788)		
	Note: DeZurik PEC eccentric, non-lubricated plug valves, cast iron high temperature faced plug, nickel seats, buna vee packing, bronze bearings with integral gage taps and schrader fittings for metering connections.		
23 05 23 00-0790	EA	1/2" Threaded Balancing Valve With Lever	339.05 35.11
23 05 23 00-0791	EA	3/4" Threaded Balancing Valve With Lever	369.19 46.26
23 05 23 00-0792	EA	1" Threaded Balancing Valve With Lever	559.30 52.95
23 05 23 00-0793	EA	1-1/4" Threaded Balancing Valve With Lever	602.01 65.76
23 05 23 00-0794	EA	1-1/2" Threaded Balancing Valve With Lever	632.19 69.66
23 05 23 00-0795	EA	2" Threaded Balancing Valve With Lever	776.36 79.70
23 05 23 00-0796	EA	2-1/2" Flanged Balancing Valve With Lever	1,041.86 148.87
23 05 23 00-0797	EA	3" Flanged Balancing Valve With Lever	1,045.44 174.53
23 05 23 00-0798	EA	4" Flanged Balancing Valve With Lever	1,306.44 292.59
23 05 23 00-0799	EA	5" Flanged Balancing Valve With Lever	3,897.56 332.63
23 05 23 00-0800	EA	6" Flanged Balancing Valve With Lever	1,920.30 369.59
23 05 23 00-0801	EA	8" Flanged Balancing Valve With Lever	2,540.34 472.25
23 05 23 00-0802	Balancing Valves With Nut (23 05 23 00-0788)		
	Note: DeZurik PEC eccentric, non-lubricated plug valves, cast iron high temperature faced plug, nickel seats, buna vee packing, bronze bearings with integral gage taps and schrader fittings for metering connections.		
23 05 23 00-0803	EA	4" Flanged Balancing Valve With Nut	1,306.44 292.59
23 05 23 00-0804	EA	5" Flanged Balancing Valve With Nut	3,897.56 332.63
23 05 23 00-0805	EA	6" Flanged Balancing Valve With Nut	1,920.30 369.59
23 05 23 00-0806	EA	8" Flanged Balancing Valve With Nut	2,540.34 472.25
23 05 23 00-0807	Balancing Valves With Hand Wheel (23 05 23 00-0788)		
	Note: DeZurik PEC eccentric, non-lubricated plug valves, cast iron high temperature faced plug, nickel seats, buna vee packing, bronze bearings with integral gage taps and schrader fittings for metering connections.		
23 05 23 00-0808	EA	4" Flanged Balancing Valve With Hand Wheel	1,781.55 292.59
23 05 23 00-0809	EA	5" Flanged Balancing Valve With Hand Wheel	4,399.82 332.63
23 05 23 00-0810	EA	6" Flanged Balancing Valve With Hand Wheel	2,423.60 369.59
23 05 23 00-0811	EA	8" Flanged Balancing Valve With Hand Wheel	3,433.13 472.25
23 05 23 00-0812	EA	10" Flanged Balancing Valve With Hand Wheel	5,284.93 574.92
23 05 23 00-0813	EA	12" Flanged Balancing Valve With Hand Wheel	6,928.56 469.04
23 05 23 00-0814	EA	14" Flanged Balancing Valve With Hand Wheel	9,060.16 884.35
23 05 23 00-0815	Balancing Valves With Chain Wheel (23 05 23 00-0788)		
	Note: DeZurik PEC eccentric, non-lubricated plug valves, cast iron high temperature faced plug, nickel seats, buna vee packing, bronze bearings with integral gage taps and schrader fittings for metering connections.		
23 05 23 00-0816	EA	4" Flanged Balancing Valve With Chain Wheel	2,054.09 292.59
23 05 23 00-0817	EA	5" Flanged Balancing Valve With Chain Wheel	4,668.18 332.63
23 05 23 00-0818	EA	6" Flanged Balancing Valve With Chain Wheel	2,690.92 369.59
23 05 23 00-0819	EA	8" Flanged Balancing Valve With Chain Wheel	3,762.05 472.25
23 05 23 00-0820	EA	10" Flanged Balancing Valve With Chain Wheel	5,604.45 574.92
23 05 23 00-0821	EA	12" Flanged Balancing Valve With Chain Wheel	7,525.07 468.71
23 05 23 00-0822	EA	14" Flanged Balancing Valve With Chain Wheel	9,600.01 884.35

23 05 23 00-0823 Calibrated Balancing Valves (23 05 23 00-0788)

Note: Bell & Gossett CB Series.



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0824	EA		1/2" Brazed Or Soldered Calibrated Balancing Valve (CB-1/2S)	141.32	11.14
23 05 23 00-0825	EA		3/4" Brazed Or Soldered Calibrated Balancing Valve (CB-3/4S)	165.64	12.26
23 05 23 00-0826	EA		1" Brazed Or Soldered Calibrated Balancing Valve (CB-1S)	187.12	13.93
23 05 23 00-0827	EA		1-1/4" Brazed Or Soldered Calibrated Balancing Valve (CB-1-1/4S)	262.12	14.82
23 05 23 00-0828	EA		1-1/2" Brazed Or Soldered Calibrated Balancing Valve (CB-1-1/2S)	307.79	17.17
23 05 23 00-0829	EA		2" Brazed Or Soldered Calibrated Balancing Valve (CB-2S)	413.82	20.28
23 05 23 00-0830	EA		1" Threaded Calibrated Balancing Valve (CB-1)	215.43	13.93
23 05 23 00-0831	EA		1-1/4" Threaded Calibrated Balancing Valve (CB-1-1/4)	293.84	14.82
23 05 23 00-0832	EA		1-1/2" Threaded Calibrated Balancing Valve (CB-1-1/2)	328.82	17.17
23 05 23 00-0833	EA		2" Threaded Calibrated Balancing Valve (CB-2)	443.38	20.28
23 05 23 00-0834	EA		2-1/2" Threaded Calibrated Balancing Valve (CB-2-1/2)	624.17	29.76
23 05 23 00-0835	EA		3" Threaded Calibrated Balancing Valve (CB-3)	1,092.89	34.55
23 05 23 00-0836	EA		2-1/2" Flanged Calibrated Balancing Valve (CB-2-1/2F)	1,029.20	161.63
23 05 23 00-0837	EA		3" Flanged Calibrated Balancing Valve (CB-3F)	1,794.28	189.49
23 05 23 00-0838	EA		4" Flanged Calibrated Balancing Valve (CB-4F)	2,690.80	317.68
23 05 23 00-0839	EA		5" Flanged Calibrated Balancing Valve (CB-5F)	3,718.17	361.15
23 05 23 00-0840	EA		6" Flanged Calibrated Balancing Valve (CB-6F)	4,713.48	401.28
23 05 23 00-0841	EA		8" Flanged Calibrated Balancing Valve (CB-8F)	7,470.50	512.74
23 05 23 00-0842	EA		10" Flanged Calibrated Balancing Valve (CB-10F)	12,274.27	619.05
23 05 23 00-0843	EA		12" Flanged Calibrated Balancing Valve (CB-12F)	25,981.60	751.70
23 05 23 00-0844	EA		4" Grooved Calibrated Balancing Valve (CB-4G)	3,108.83	38.37
23 05 23 00-0845	EA		5" Grooved Calibrated Balancing Valve (CB-5G)	3,608.93	51.60
23 05 23 00-0846	EA		6" Grooved Calibrated Balancing Valve (CB-6G)	4,776.94	66.17
23 05 23 00-0847	EA		8" Grooved Calibrated Balancing Valve (CB-8G)	8,961.11	83.98
23 05 23 00-0848	EA		10" Grooved Calibrated Balancing Valve (CB-10G)	14,303.75	94.09
23 05 23 00-0849	EA		12" Grooved Calibrated Balancing Valve (CB-12G)	29,492.69	114.73
23 05 23 00-0850			Butterfly Valves (23 05 23)		
23 05 23 00-0851			Cast Iron Body, Iron Disc, 150 PSI, Wafer Type, Butterfly Valves (23 05 23 00-0850)		
			Note: With on-off handle		
23 05 23 00-0852	EA		2" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type	423.32	148.53
			For 200 PSI, Add	114.06	
			For Work In Restricted Working Space, Add	55.71	
23 05 23 00-0853	EA		2-1/2" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type	437.99	148.78
			For 200 PSI, Add	120.69	
			For Work In Restricted Working Space, Add	55.97	
23 05 23 00-0854	EA		3" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type	489.08	174.43
			For 200 PSI, Add	129.97	
			For Work In Restricted Working Space, Add	65.49	
23 05 23 00-0855	EA		4" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type	706.30	292.42
			For 200 PSI, Add	163.13	
			For Work In Restricted Working Space, Add	109.94	
23 05 23 00-0856	EA		5" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type	940.43	364.23
			For 200 PSI, Add	232.09	
			For Work In Restricted Working Space, Add	137.07	
23 05 23 00-0857	EA		6" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type	1,097.14	404.69
			For 200 PSI, Add	283.81	
			For Work In Restricted Working Space, Add	151.76	
23 05 23 00-0858	EA		8" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type	1,467.82	465.40
			For 200 PSI, Add	427.05	
			For Work In Restricted Working Space, Add	173.44	
23 05 23 00-0859	EA		10" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type	2,432.31	566.57
			For 200 PSI, Add	827.57	
			For Work In Restricted Working Space, Add	212.46	
23 05 23 00-0860	EA		12" Butterfly Valve, Cast Iron, With Iron Disc, On Off Handle, 150 PSI Wafer Type	3,055.01	687.97
			For 200 PSI, Add	1,054.36	
			For Work In Restricted Working Space, Add	257.53	
23 05 23 00-0861			Cast Iron Body, Bronze Disc, Gear Operated, 200 LB, Lug Type, Butterfly Valves (23 05 23 00-0860)		
23 05 23 00-0862	EA		2" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI	837.77	148.53
			For Work In Restricted Working Space, Add	55.71	
23 05 23 00-0863	EA		2-1/2" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI	844.15	148.78
			For Work In Restricted Working Space, Add	55.97	
23 05 23 00-0864	EA		3" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI	909.06	174.43
			For Work In Restricted Working Space, Add	65.49	
23 05 23 00-0865	EA		4" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI	1,145.62	292.42
			For Work In Restricted Working Space, Add	109.94	
23 05 23 00-0866	EA		5" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI	1,426.72	364.23
			For Work In Restricted Working Space, Add	137.07	
23 05 23 00-0867	EA		6" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI	1,580.51	404.69
			For Work In Restricted Working Space, Add	151.76	
23 05 23 00-0868	EA		8" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI	1,970.68	465.40
			For Work In Restricted Working Space, Add	173.44	
23 05 23 00-0869	EA		10" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI	2,506.91	566.57
			For Work In Restricted Working Space, Add	212.46	
23 05 23 00-0870	EA		12" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 200 PSI	3,472.23	687.97
			For Work In Restricted Working Space, Add	257.53	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 23 General-Duty Valves For HVAC Piping**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0871		Cast Iron Body, Bronze Disc, Gear Operated, 150 LB, Lug Type, Butterfly Valves (23 05 23 00-0850)		
23 05 23 00-0872	EA	14" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	5,900.03	925.57
		For 200 PSI, Add.....	1,679.74	
		For Work In Restricted Working Space, Add.....	370.23	
23 05 23 00-0873	EA	16" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	7,626.12	1,086.00
		For 200 PSI, Add.....	2,256.70	
		For Work In Restricted Working Space, Add.....	407.25	
23 05 23 00-0874	EA	18" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	10,821.94	1,209.41
		For 200 PSI, Add.....	3,352.90	
		For Work In Restricted Working Space, Add.....	452.50	
23 05 23 00-0875	EA	20" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	14,015.25	1,357.50
		For 200 PSI, Add.....	4,434.62	
		For Work In Restricted Working Space, Add.....	509.06	
23 05 23 00-0876	EA	24" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	18,908.22	1,666.03
		For 200 PSI, Add.....	6,055.11	
		For Work In Restricted Working Space, Add.....	626.54	
23 05 23 00-0877	EA	30" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	39,453.64	2,631.09
		For 200 PSI, Add.....	12,997.79	
		For Work In Restricted Working Space, Add.....	1,004.60	
23 05 23 00-0878	EA	36" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	50,059.63	3,587.85
		For 200 PSI, Add.....	16,514.57	
		For Work In Restricted Working Space, Add.....	1,255.75	
23 05 23 00-0879	EA	42" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	59,980.25	5,262.19
		For 200 PSI, Add.....	19,274.58	
		For Work In Restricted Working Space, Add.....	1,931.92	
23 05 23 00-0880	EA	48" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	72,597.03	6,577.73
		For 200 PSI, Add.....	23,121.13	
		For Work In Restricted Working Space, Add.....	2,511.50	
23 05 23 00-0881	EA	54" Butterfly Valve, Cast Iron, With Bronze Disc Gear Operated, 150 PSI.....	87,483.19	7,893.28
		For 200 PSI, Add.....	27,726.70	
		For Work In Restricted Working Space, Add.....	3,139.37	
23 05 23 00-0882		Plastic Butterfly Valves (23 05 23 00-0850)		
23 05 23 00-0883		Polyvinyl Chloride (PVC) Butterfly Valves, With Operator (23 05 23 00-0882)		
23 05 23 00-0884		Polyvinyl Chloride (PVC) Butterfly Valves, Ethylene Propylene Diene Monomer (EPDM) Liner And Seals (23 05 23 00-0883)		
23 05 23 00-0885	EA	1-1/2" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	232.54	97.49
23 05 23 00-0886	EA	2" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	266.18	122.56
23 05 23 00-0887	EA	3" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	306.00	143.64
23 05 23 00-0888	EA	4" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	444.16	243.68
23 05 23 00-0889	EA	6" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	631.20	303.52
23 05 23 00-0890	EA	8" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	854.93	384.45
23 05 23 00-0891	EA	10" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	1,350.59	455.27
23 05 23 00-0892	EA	12" Butterfly Valve, Polyvinyl Chloride (PVC) With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	1,759.58	556.45
23 05 23 00-0893		Polyvinyl Chloride (PVC) Butterfly Valves, Viton Liner And Seals (23 05 23 00-0883)		
23 05 23 00-0894	EA	1-1/2" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	353.26	97.49
23 05 23 00-0895	EA	2" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	386.90	122.56
23 05 23 00-0896	EA	3" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	449.42	143.64
23 05 23 00-0897	EA	4" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	624.73	243.68
23 05 23 00-0898	EA	6" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	945.89	303.52
23 05 23 00-0899	EA	8" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	1,366.69	384.45
23 05 23 00-0900	EA	10" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	2,526.81	455.27
23 05 23 00-0901	EA	12" Butterfly Valve, Polyvinyl Chloride (PVC) With Viton Liner And Seals.....	3,359.86	556.45
23 05 23 00-0902		Polyvinyl Chloride (PVC)/Polypropylene Butterfly Valves, With Operator (23 05 23 00-0882)		
23 05 23 00-0903		Polyvinyl Chloride (PVC)/Polypropylene Butterfly Valves, Ethylene Propylene Diene Monomer (EPDM) Liner And Seals (23 05 23 00-0902)		
23 05 23 00-0904	EA	2" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	276.70	122.56
23 05 23 00-0905	EA	2-1/2" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	284.42	123.13
23 05 23 00-0906	EA	3" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	313.48	143.64
23 05 23 00-0907	EA	4" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	442.58	243.68
23 05 23 00-0908	EA	6" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	625.03	303.52
23 05 23 00-0909	EA	8" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	940.53	384.45
23 05 23 00-0910	EA	10" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	1,481.86	455.27
23 05 23 00-0911	EA	12" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Ethylene Propylene Diene Monomer (EPDM) Liner And Seals.....	1,906.78	556.45



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 23 00-0912 Polyvinyl Chloride (PVC)/Polypropylene Butterfly Valves, Viton Liner And Seals (23 05 23 00-0902)		
23 05 23 00-0913 EA 2" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	342.81	50.70
23 05 23 00-0914 EA 2-1/2" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	374.66	61.28
23 05 23 00-0915 EA 3" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	393.11	68.34
23 05 23 00-0916 EA 4" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	459.82	78.90
23 05 23 00-0917 EA 6" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	737.68	128.26
23 05 23 00-0918 EA 8" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	1,586.39	205.21
23 05 23 00-0919 EA 10" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	2,369.49	227.78
23 05 23 00-0920 EA 12" Butterfly Valve, Polyvinyl Chloride (PVC)/Polypropylene With Viton Liner And Seals	3,329.76	256.51
23 05 23 00-0921 Polyvinylidene Fluoride (PVDF) Butterfly Valves, With Operator (23 05 23 00-0882)		
23 05 23 00-0922 Polyvinylidene Fluoride (PVDF) Butterfly Valves, Viton Liner And Seals (23 05 23 00-0921)		
23 05 23 00-0923 EA 2" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	944.24	122.56
23 05 23 00-0924 EA 2-1/2" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	980.82	123.13
23 05 23 00-0925 EA 3" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	1,070.01	143.64
23 05 23 00-0926 EA 4" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	1,505.97	243.68
23 05 23 00-0927 EA 6" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	2,711.32	303.52
23 05 23 00-0928 EA 8" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	5,277.41	384.45
23 05 23 00-0929 EA 10" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	7,844.24	455.27
23 05 23 00-0930 EA 12" Butterfly Valve, Polyvinylidene Fluoride (PVDF) With Viton Liner And Seals	9,775.94	556.45
23 05 29 Hangers and Supports for HVAC Piping and Equipment (23 05)		
23 05 29 00-0001 Hangers And Supports (23 05 29)		
23 05 29 00-0002 Clevis Hangers (23 05 29 00-0001)		
23 05 29 00-0003 Steel Clevis Hanger (Cooper B-Line B3100) (23 05 29 00-0002)		
Note: Type 1.		
23 05 29 00-0004 EA 1/2" Steel Clevis Hanger (Cooper B-Line B3100)	20.37	9.23
For Work In Restricted Working Space, Add	5.54	
23 05 29 00-0005 EA 3/4" Steel Clevis Hanger (Cooper B-Line B3100)	22.42	10.26
For Work In Restricted Working Space, Add	6.16	
23 05 29 00-0006 EA 1" Steel Clevis Hanger (Cooper B-Line B3100)	23.58	10.26
For Work In Restricted Working Space, Add	6.48	
23 05 29 00-0007 EA 1-1/4" Steel Clevis Hanger (Cooper B-Line B3100)	24.46	11.10
For Work In Restricted Working Space, Add	6.66	
23 05 29 00-0008 EA 1-1/2" Steel Clevis Hanger (Cooper B-Line B3100)	24.71	11.10
For Work In Restricted Working Space, Add	6.66	
23 05 29 00-0009 EA 2" Steel Clevis Hanger (Cooper B-Line B3100)	25.81	11.29
For Work In Restricted Working Space, Add	6.84	
23 05 29 00-0010 EA 2-1/2" Steel Clevis Hanger (Cooper B-Line B3100)	28.35	11.70
For Work In Restricted Working Space, Add	7.04	
23 05 29 00-0011 EA 3" Steel Clevis Hanger (Cooper B-Line B3100)	30.28	12.31
For Work In Restricted Working Space, Add	7.24	
23 05 29 00-0012 EA 3-1/2" Steel Clevis Hanger (Cooper B-Line B3100)	31.64	13.52
For Work In Restricted Working Space, Add	7.73	
23 05 29 00-0013 EA 4" Steel Clevis Hanger (Cooper B-Line B3100)	34.75	14.37
For Work In Restricted Working Space, Add	8.21	
23 05 29 00-0014 EA 5" Steel Clevis Hanger (Cooper B-Line B3100)	44.60	17.19
For Work In Restricted Working Space, Add	10.31	
23 05 29 00-0015 EA 6" Steel Clevis Hanger (Cooper B-Line B3100)	53.67	20.52
For Work In Restricted Working Space, Add	12.31	
23 05 29 00-0016 EA 8" Steel Clevis Hanger (Cooper B-Line B3100)	72.22	25.66
For Work In Restricted Working Space, Add	15.39	
23 05 29 00-0017 EA 10" Steel Clevis Hanger (Cooper B-Line B3100)	105.69	34.89
For Work In Restricted Working Space, Add	20.52	
23 05 29 00-0018 EA 12" Steel Clevis Hanger (Cooper B-Line B3100)	123.93	38.47
For Work In Restricted Working Space, Add	23.09	
23 05 29 00-0019 EA 14" Steel Clevis Hanger (Cooper B-Line B3100)	154.41	43.10
For Work In Restricted Working Space, Add	26.47	
23 05 29 00-0020 EA 16" Steel Clevis Hanger (Cooper B-Line B3100)	192.42	51.30
For Work In Restricted Working Space, Add	30.78	
23 05 29 00-0021 EA 18" Steel Clevis Hanger (Cooper B-Line B3100)	239.82	64.13
For Work In Restricted Working Space, Add	38.48	
23 05 29 00-0022 EA 20" Steel Clevis Hanger (Cooper B-Line B3100)	388.34	76.96
For Work In Restricted Working Space, Add	46.17	
23 05 29 00-0023 EA 24" Steel Clevis Hanger (Cooper B-Line B3100)	593.65	89.78
For Work In Restricted Working Space, Add	53.87	
23 05 29 00-0024 Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C) (23 05 29 00-0002)		
23 05 29 00-0025 EA 1/2" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	25.43	9.23
For Work In Restricted Working Space, Add	5.54	
23 05 29 00-0026 EA 3/4" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	27.48	10.26
For Work In Restricted Working Space, Add	6.16	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0027	EA	1" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C).....	28.74	10.26
		<i>For Work In Restricted Working Space, Add</i>	6.48	
23 05 29 00-0028	EA	1-1/4" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	29.74	11.10
		<i>For Work In Restricted Working Space, Add</i>	6.66	
23 05 29 00-0029	EA	1-1/2" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	30.38	11.10
		<i>For Work In Restricted Working Space, Add</i>	6.66	
23 05 29 00-0030	EA	2" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C).....	31.16	11.29
		<i>For Work In Restricted Working Space, Add</i>	6.84	
23 05 29 00-0031	EA	2-1/2" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	34.88	11.70
		<i>For Work In Restricted Working Space, Add</i>	7.04	
23 05 29 00-0032	EA	3" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C).....	36.59	12.31
		<i>For Work In Restricted Working Space, Add</i>	7.24	
23 05 29 00-0033	EA	3-1/2" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C)	41.03	14.37
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 05 29 00-0034	EA	4" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C).....	45.30	14.37
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 05 29 00-0035	EA	5" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C).....	74.34	17.19
		<i>For Work In Restricted Working Space, Add</i>	10.31	
23 05 29 00-0036	EA	6" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C).....	92.14	20.52
		<i>For Work In Restricted Working Space, Add</i>	12.31	
23 05 29 00-0037	EA	8" Steel Clevis Hanger, Plastic Coated (Cooper B-Line B3100C).....	109.72	25.66
		<i>For Work In Restricted Working Space, Add</i>	15.39	
23 05 29 00-0038		Steel Clevis Hanger, Light Duty (Cooper B-Line B3104) (23 05 29 00-0002)		
23 05 29 00-0039	EA	1/2" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104).....	20.19	9.23
		<i>For Work In Restricted Working Space, Add</i>	5.54	
23 05 29 00-0040	EA	3/4" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104)	22.28	10.26
		<i>For Work In Restricted Working Space, Add</i>	6.16	
23 05 29 00-0041	EA	1" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104)	23.54	10.26
		<i>For Work In Restricted Working Space, Add</i>	6.48	
23 05 29 00-0042	EA	1-1/4" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104).....	24.18	11.10
		<i>For Work In Restricted Working Space, Add</i>	6.66	
23 05 29 00-0043	EA	1-1/2" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104).....	24.32	11.10
		<i>For Work In Restricted Working Space, Add</i>	6.66	
23 05 29 00-0044	EA	2" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104).....	25.02	11.29
		<i>For Work In Restricted Working Space, Add</i>	6.84	
23 05 29 00-0045	EA	2-1/2" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104).....	27.31	11.70
		<i>For Work In Restricted Working Space, Add</i>	7.04	
23 05 29 00-0046	EA	3" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104).....	28.52	12.31
		<i>For Work In Restricted Working Space, Add</i>	7.24	
23 05 29 00-0047	EA	3-1/2" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104).....	32.14	14.37
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 05 29 00-0048	EA	4" Steel Clevis Hanger, Light Duty (Cooper B-Line B3104).....	33.14	14.37
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 05 29 00-0049		Extended Steel Clevis Hanger (Cooper B-Line B3108) (23 05 29 00-0002)		
23 05 29 00-0050	EA	3/4" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	28.60	10.26
		<i>For Work In Restricted Working Space, Add</i>	6.16	
23 05 29 00-0051	EA	1" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	29.75	10.26
		<i>For Work In Restricted Working Space, Add</i>	6.48	
23 05 29 00-0052	EA	1-1/4" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	30.35	11.10
		<i>For Work In Restricted Working Space, Add</i>	6.66	
23 05 29 00-0053	EA	1-1/2" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	31.35	11.10
		<i>For Work In Restricted Working Space, Add</i>	6.66	
23 05 29 00-0054	EA	2" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	33.64	11.29
		<i>For Work In Restricted Working Space, Add</i>	6.84	
23 05 29 00-0055	EA	2-1/2" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	36.07	11.70
		<i>For Work In Restricted Working Space, Add</i>	7.04	
23 05 29 00-0056	EA	3" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	37.85	12.31
		<i>For Work In Restricted Working Space, Add</i>	7.24	
23 05 29 00-0057	EA	4" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	45.44	14.37
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 05 29 00-0058	EA	5" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	57.34	17.19
		<i>For Work In Restricted Working Space, Add</i>	10.31	
23 05 29 00-0059	EA	6" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	70.75	20.52
		<i>For Work In Restricted Working Space, Add</i>	12.31	
23 05 29 00-0060	EA	8" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	100.24	25.66
		<i>For Work In Restricted Working Space, Add</i>	15.39	
23 05 29 00-0061	EA	10" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	140.78	34.89
		<i>For Work In Restricted Working Space, Add</i>	20.52	
23 05 29 00-0062	EA	12" Steel Extended Clevis Hanger (Cooper B-Line B3108).....	158.13	38.47
		<i>For Work In Restricted Working Space, Add</i>	23.09	
23 05 29 00-0063		Steel Clevis Hanger, Flat Top (Cooper B-Line B3109) (23 05 29 00-0002)		
23 05 29 00-0064	EA	2" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109).....	34.82	11.29
		<i>For Work In Restricted Working Space, Add</i>	6.84	
23 05 29 00-0065	EA	2-1/2" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109).....	37.18	11.70
		<i>For Work In Restricted Working Space, Add</i>	7.04	
23 05 29 00-0066	EA	3" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109).....	39.11	12.31
		<i>For Work In Restricted Working Space, Add</i>	7.24	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0067	EA	3-1/2" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109)..... <i>For Work In Restricted Working Space, Add</i>	43.29 8.21	14.37
23 05 29 00-0068	EA	4" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109)..... <i>For Work In Restricted Working Space, Add</i>	45.80 8.21	14.37
23 05 29 00-0069	EA	5" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109)..... <i>For Work In Restricted Working Space, Add</i>	56.87 10.31	17.19
23 05 29 00-0070	EA	6" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109)..... <i>For Work In Restricted Working Space, Add</i>	66.37 12.37	20.52
23 05 29 00-0071	EA	8" Steel Clevis Hanger, Flat Top (Cooper B-Line B3109)..... <i>For Work In Restricted Working Space, Add</i>	88.12 15.39	25.66
23 05 29 00-0072		Adjustable Hangers (23 05 29 00-0001)		
23 05 29 00-0073		Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690) (23 05 29 00-0072) Note: Type 5.		
23 05 29 00-0074	EA	1/2" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690)..... <i>For Work In Restricted Working Space, Add</i>	18.61 4.95	8.09
23 05 29 00-0075	EA	3/4" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690)..... <i>For Work In Restricted Working Space, Add</i>	20.39 5.39	8.97
23 05 29 00-0076	EA	1" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690)..... <i>For Work In Restricted Working Space, Add</i>	22.36 5.98	9.98
23 05 29 00-0077	EA	1-1/4" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690)..... <i>For Work In Restricted Working Space, Add</i>	24.67 6.65	11.08
23 05 29 00-0078	EA	1-1/2" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690)..... <i>For Work In Restricted Working Space, Add</i>	25.93 6.98	11.63
23 05 29 00-0079	EA	2" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690)..... <i>For Work In Restricted Working Space, Add</i>	27.78 7.31	12.19
23 05 29 00-0080	EA	2-1/2" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690)..... <i>For Work In Restricted Working Space, Add</i>	32.02 7.65	12.74
23 05 29 00-0081	EA	3" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690)..... <i>For Work In Restricted Working Space, Add</i>	33.45 7.98	13.30
23 05 29 00-0082	EA	4" Steel J-Hanger Hanger With Bolt (Cooper B-Line B3690)..... <i>For Work In Restricted Working Space, Add</i>	39.90 8.98	14.96
23 05 29 00-0083		Adjustable Swivel Steel Ring (Cooper B-Line B3170) (23 05 29 00-0072) Note: Type 10.		
23 05 29 00-0084	EA	1/2" Adjustable Swivel Steel Ring (Cooper B-Line B3170)..... <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	21.64 6.16 7.39 9.52	10.26
23 05 29 00-0085	EA	3/4" Adjustable Swivel Steel Ring (Cooper B-Line B3170)..... <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	22.82 6.48 8.05 10.37	10.26
23 05 29 00-0086	EA	1" Adjustable Swivel Steel Ring (Cooper B-Line B3170)..... <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	24.02 6.84 8.05 10.37	11.29
23 05 29 00-0087	EA	1-1/4" Adjustable Swivel Steel Ring (Cooper B-Line B3170)..... <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	25.50 7.24 8.98 11.56	12.31
23 05 29 00-0088	EA	1-1/2" Adjustable Swivel Steel Ring (Cooper B-Line B3170)..... <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	28.72 8.21 8.98 11.56	14.37
23 05 29 00-0089	EA	2" Adjustable Swivel Steel Ring (Cooper B-Line B3170)..... <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	30.75 8.79 9.50 12.24	14.37
23 05 29 00-0090	EA	2-1/2" Adjustable Swivel Steel Ring (Cooper B-Line B3170)..... <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	33.91 9.47 15.44 19.89	15.39
23 05 29 00-0091	EA	3" Adjustable Swivel Steel Ring (Cooper B-Line B3170)..... <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	36.64 10.26 16.10 20.74	17.44
23 05 29 00-0092	EA	3-1/2" Adjustable Swivel Steel Ring (Cooper B-Line B3170)..... <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	40.72 11.24 21.58 27.80	18.72
23 05 29 00-0093	EA	4" Adjustable Swivel Steel Ring (Cooper B-Line B3170)..... <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	44.31 12.31 21.58 27.80	20.52
23 05 29 00-0094	EA	5" Adjustable Swivel Steel Ring (Cooper B-Line B3170)..... <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	52.95 13.85 44.75 57.63	23.09

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0095	EA	6" Adjustable Swivel Steel Ring (Cooper B-Line B3170) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	58.19 15.39 45.47 58.57	25.66
23 05 29 00-0096	EA	8" Adjustable Swivel Steel Ring (Cooper B-Line B3170) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	69.74 18.47 53.99 69.53	30.78
23 05 29 00-0097		Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) (23 05 29 00-0072)		
23 05 29 00-0098	EA	1/2" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	24.09 6.16 23.56 30.35	10.26
23 05 29 00-0099	EA	3/4" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	25.17 6.48 23.56 30.35	10.26
23 05 29 00-0100	EA	1" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	26.37 6.84 23.56 30.35	11.29
23 05 29 00-0101	EA	1-1/4" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	27.71 7.24 23.56 30.35	12.31
23 05 29 00-0102	EA	1-1/2" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	31.23 8.21 25.54 32.90	14.37
23 05 29 00-0103	EA	2" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	33.18 8.79 25.54 32.90	14.37
23 05 29 00-0104	EA	2-1/2" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	41.72 9.47 66.99 86.28	15.39
23 05 29 00-0105	EA	3" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	46.77 10.26 82.96 106.85	17.44
23 05 29 00-0106	EA	3-1/2" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	51.01 11.24 89.50 115.26	18.72
23 05 29 00-0107	EA	4" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	57.55 12.31 108.97 140.34	20.52
23 05 29 00-0108	EA	5" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	62.91 13.85 110.48 142.29	23.09
23 05 29 00-0109	EA	6" Copper Tubing Adjustable Swivel Ring (Cooper B-Line B3170CT) <i>For Work In Restricted Working Space, Add</i> <i>For 304 Stainless Steel, Add</i> <i>For 316 Stainless Steel, Add</i>	75.53 15.39 159.92 205.96	25.66
23 05 29 00-0110		Roller Hangers (23 05 29 00-0001)		
23 05 29 00-0111		Single Pipe Roll (Cooper B-Line B3114) (23 05 29 00-0110)		
		Note: Excludes rod and nuts. Type 41.		
23 05 29 00-0112	EA	2" Single Pipe Roll (Cooper B-Line B3114) Note: Excludes rod and nuts. <i>For Work In Restricted Working Space, Add</i>	32.25 4.93	8.22
23 05 29 00-0113	EA	2-1/2" Single Pipe Roll (Cooper B-Line B3114) Note: Excludes rod and nuts. <i>For Work In Restricted Working Space, Add</i>	35.49 5.54	9.24
23 05 29 00-0114	EA	3" Single Pipe Roll (Cooper B-Line B3114) Note: Excludes rod and nuts. <i>For Work In Restricted Working Space, Add</i>	39.50 6.47	10.78
23 05 29 00-0115	EA	3-1/2" Single Pipe Roll (Cooper B-Line B3114) Note: Excludes rod and nuts. <i>For Work In Restricted Working Space, Add</i>	45.45 7.39	12.32
23 05 29 00-0116	EA	4" Single Pipe Roll (Cooper B-Line B3114) Note: Excludes rod and nuts. <i>For Work In Restricted Working Space, Add</i>	62.78 8.32	13.86
23 05 29 00-0117	EA	5" Single Pipe Roll (Cooper B-Line B3114) Note: Excludes rod and nuts. <i>For Work In Restricted Working Space, Add</i>	56.06 9.24	15.40
23 05 29 00-0118	EA	6" Single Pipe Roll (Cooper B-Line B3114) Note: Excludes rod and nuts. <i>For Work In Restricted Working Space, Add</i>	69.76 11.09	18.48



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0119	EA	8" Single Pipe Roll (Cooper B-Line B3114) Note: Excludes rod and nuts. For Work In Restricted Working Space, Add	94.00 12.94	21.56
23 05 29 00-0120	EA	10" Single Pipe Roll (Cooper B-Line B3114) Note: Excludes rod and nuts. For Work In Restricted Working Space, Add	111.44 15.40	25.67
23 05 29 00-0121		Adjustable Clevis Roller Hanger (Cooper B-Line B3110) (23 05 29 00-0110) Note: Type 43.		
23 05 29 00-0122	EA	2" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	48.07 8.36 133.32 171.70	14.49
23 05 29 00-0123	EA	2-1/2" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	50.07 8.96 133.32 171.70	14.93
23 05 29 00-0124	EA	3" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	54.38 9.56 148.70 191.51	15.61
23 05 29 00-0125	EA	3-1/2" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	63.44 10.03 198.00 255.00	16.72
23 05 29 00-0126	EA	4" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	67.16 11.15 198.00 255.00	18.95
23 05 29 00-0127	EA	5" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	75.82 12.24 231.13 297.67	20.39
23 05 29 00-0128	EA	6" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	88.08 13.38 287.03 369.67	22.30
23 05 29 00-0129	EA	8" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	120.82 16.72 429.59 553.27	27.87
23 05 29 00-0130	EA	10" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	151.86 22.29 511.83 659.18	37.90
23 05 29 00-0131	EA	12" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	197.60 25.08 752.40 969.00	41.79
23 05 29 00-0132	EA	14" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	411.77 28.76 2,085.01 2,685.24	47.93
23 05 29 00-0133	EA	16" Steel Clevis Roller Hanger (Cooper B-Line B3110)..... For Work In Restricted Working Space, Add For 304 Stainless Steel, Add For 316 Stainless Steel, Add	516.99 33.44 2,676.43 3,446.92	55.73
23 05 29 00-0134		Roller Chair (Cooper B-Line B3120) (23 05 29 00-0110)		
23 05 29 00-0135	EA	2" Steel Roller Chair (Cooper B-Line B3120)..... For Work In Restricted Working Space, Add	46.74 8.36	14.49
23 05 29 00-0136	EA	2-1/2" Steel Roller Chair (Cooper B-Line B3120) For Work In Restricted Working Space, Add	50.36 8.96	14.93
23 05 29 00-0137	EA	3" Steel Roller Chair (Cooper B-Line B3120)..... For Work In Restricted Working Space, Add	52.81 9.56	15.61
23 05 29 00-0138	EA	3-1/2" Steel Roller Chair (Cooper B-Line B3120) For Work In Restricted Working Space, Add	60.14 10.03	16.72
23 05 29 00-0139	EA	4" Steel Roller Chair (Cooper B-Line B3120)..... For Work In Restricted Working Space, Add	67.01 11.15	18.95
23 05 29 00-0140	EA	5" Steel Roller Chair (Cooper B-Line B3120)..... For Work In Restricted Working Space, Add	73.24 12.24	20.39
23 05 29 00-0141	EA	6" Steel Roller Chair (Cooper B-Line B3120)..... For Work In Restricted Working Space, Add	89.77 13.38	22.30
23 05 29 00-0142	EA	8" Steel Roller Chair (Cooper B-Line B3120)..... For Work In Restricted Working Space, Add	116.80 16.72	27.87
23 05 29 00-0143	EA	10" Steel Roller Chair (Cooper B-Line B3120)..... For Work In Restricted Working Space, Add	150.92 22.29	37.90
23 05 29 00-0144	EA	12" Steel Roller Chair (Cooper B-Line B3120)..... For Work In Restricted Working Space, Add	195.16 25.08	41.79
23 05 29 00-0145	EA	14" Steel Roller Chair (Cooper B-Line B3120)..... For Work In Restricted Working Space, Add	212.88 28.76	47.93
23 05 29 00-0146	EA	16" Steel Roller Chair (Cooper B-Line B3120)..... For Work In Restricted Working Space, Add	256.72 33.44	55.73

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0147	EA	18" Steel Roller Chair (Cooper B-Line B3120).....	346.16	69.66
		<i>For Work In Restricted Working Space, Add</i>	41.80	
23 05 29 00-0148	EA	20" Steel Roller Chair (Cooper B-Line B3120).....	428.39	83.60
		<i>For Work In Restricted Working Space, Add</i>	50.16	
23 05 29 00-0149		Adjustable Roller Support (Cooper B-Line B3122) (23 05 29 00-0110)		
23 05 29 00-0150	EA	2" Steel Adjustable Roller Support (Cooper B-Line B3122).....	52.95	14.49
		<i>For Work In Restricted Working Space, Add</i>	8.36	
23 05 29 00-0151	EA	2-1/2" Steel Adjustable Roller Support (Cooper B-Line B3122).....	59.55	14.93
		<i>For Work In Restricted Working Space, Add</i>	8.96	
23 05 29 00-0152	EA	3" Steel Adjustable Roller Support (Cooper B-Line B3122).....	62.60	15.61
		<i>For Work In Restricted Working Space, Add</i>	9.56	
23 05 29 00-0153	EA	3-1/2" Steel Adjustable Roller Support (Cooper B-Line B3122).....	66.13	16.72
		<i>For Work In Restricted Working Space, Add</i>	10.03	
23 05 29 00-0154	EA	4" Steel Adjustable Roller Support (Cooper B-Line B3122).....	79.57	18.95
		<i>For Work In Restricted Working Space, Add</i>	11.15	
23 05 29 00-0155	EA	5" Steel Adjustable Roller Support (Cooper B-Line B3122).....	90.25	20.39
		<i>For Work In Restricted Working Space, Add</i>	12.24	
23 05 29 00-0156	EA	6" Steel Adjustable Roller Support (Cooper B-Line B3122).....	105.13	22.30
		<i>For Work In Restricted Working Space, Add</i>	13.38	
23 05 29 00-0157	EA	8" Steel Adjustable Roller Support (Cooper B-Line B3122).....	148.42	27.87
		<i>For Work In Restricted Working Space, Add</i>	16.72	
23 05 29 00-0158	EA	10" Steel Adjustable Roller Support (Cooper B-Line B3122).....	185.01	37.90
		<i>For Work In Restricted Working Space, Add</i>	22.29	
23 05 29 00-0159	EA	12" Steel Adjustable Roller Support (Cooper B-Line B3122).....	214.04	41.79
		<i>For Work In Restricted Working Space, Add</i>	25.08	
23 05 29 00-0160	EA	14" Steel Adjustable Roller Support (Cooper B-Line B3122).....	303.23	47.93
		<i>For Work In Restricted Working Space, Add</i>	28.76	
23 05 29 00-0161	EA	16" Steel Adjustable Roller Support (Cooper B-Line B3122).....	363.58	55.73
		<i>For Work In Restricted Working Space, Add</i>	33.44	
23 05 29 00-0162	EA	18" Steel Adjustable Roller Support (Cooper B-Line B3122).....	412.65	69.66
		<i>For Work In Restricted Working Space, Add</i>	41.80	
23 05 29 00-0163		Adjustable Double Roller Support (Cooper B-Line B3122A) (23 05 29 00-0110)		
23 05 29 00-0164	EA	2" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	53.31	14.49
		<i>For Work In Restricted Working Space, Add</i>	8.36	
23 05 29 00-0165	EA	2-1/2" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	59.87	14.93
		<i>For Work In Restricted Working Space, Add</i>	8.96	
23 05 29 00-0166	EA	3" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	63.14	15.61
		<i>For Work In Restricted Working Space, Add</i>	9.56	
23 05 29 00-0167	EA	3-1/2" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	65.66	16.72
		<i>For Work In Restricted Working Space, Add</i>	10.03	
23 05 29 00-0168	EA	4" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	83.20	18.95
		<i>For Work In Restricted Working Space, Add</i>	11.15	
23 05 29 00-0169	EA	5" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	94.52	20.39
		<i>For Work In Restricted Working Space, Add</i>	12.24	
23 05 29 00-0170	EA	6" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	110.22	22.30
		<i>For Work In Restricted Working Space, Add</i>	13.38	
23 05 29 00-0171	EA	8" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	156.31	27.87
		<i>For Work In Restricted Working Space, Add</i>	16.72	
23 05 29 00-0172	EA	10" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	194.48	37.90
		<i>For Work In Restricted Working Space, Add</i>	22.29	
23 05 29 00-0173	EA	12" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	225.12	41.79
		<i>For Work In Restricted Working Space, Add</i>	25.08	
23 05 29 00-0174	EA	14" Steel Adjustable Double Roller Support (Cooper B-Line B3122A).....	320.96	47.93
		<i>For Work In Restricted Working Space, Add</i>	28.76	
23 05 29 00-0175		Pipe And Riser Clamps (23 05 29 00-0001)		
		Note: Includes bolts and weldless eye nuts.		
23 05 29 00-0176		Steel Pipe Clamp (Cooper B-Line B3140) (23 05 29 00-0175)		
		Note: Type 4.		
23 05 29 00-0177	EA	1/2" Steel Pipe Clamp (Cooper B-Line B3140).....	18.00	6.65
		<i>For Work In Restricted Working Space, Add</i>	3.99	
23 05 29 00-0178	EA	3/4" Steel Pipe Clamp (Cooper B-Line B3140).....	18.22	6.76
		<i>For Work In Restricted Working Space, Add</i>	4.06	
23 05 29 00-0179	EA	1" Steel Pipe Clamp (Cooper B-Line B3140).....	18.48	6.87
		<i>For Work In Restricted Working Space, Add</i>	4.12	
23 05 29 00-0180	EA	1-1/4" Steel Pipe Clamp (Cooper B-Line B3140).....	20.13	6.98
		<i>For Work In Restricted Working Space, Add</i>	4.19	
23 05 29 00-0181	EA	1-1/2" Steel Pipe Clamp (Cooper B-Line B3140).....	20.35	7.09
		<i>For Work In Restricted Working Space, Add</i>	4.25	
23 05 29 00-0182	EA	2" Steel Pipe Clamp (Cooper B-Line B3140).....	21.66	7.20
		<i>For Work In Restricted Working Space, Add</i>	4.32	
23 05 29 00-0183	EA	2-1/2" Steel Pipe Clamp (Cooper B-Line B3140).....	22.53	7.42
		<i>For Work In Restricted Working Space, Add</i>	4.46	
23 05 29 00-0184	EA	3" Steel Pipe Clamp (Cooper B-Line B3140).....	23.87	7.64
		<i>For Work In Restricted Working Space, Add</i>	4.59	
23 05 29 00-0185	EA	3-1/2" Steel Pipe Clamp (Cooper B-Line B3140).....	27.64	7.76
		<i>For Work In Restricted Working Space, Add</i>	4.65	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0186	EA	4" Steel Pipe Clamp (Cooper B-Line B3140).....	32.07	9.98
		For Work In Restricted Working Space, Add	5.98	
23 05 29 00-0187	EA	5" Steel Pipe Clamp (Cooper B-Line B3140).....	45.97	13.30
		For Work In Restricted Working Space, Add	7.98	
23 05 29 00-0188	EA	6" Steel Pipe Clamp (Cooper B-Line B3140).....	62.95	16.62
		For Work In Restricted Working Space, Add	9.97	
23 05 29 00-0189	EA	8" Steel Pipe Clamp (Cooper B-Line B3140).....	74.09	19.39
		For Work In Restricted Working Space, Add	11.63	
23 05 29 00-0190	EA	10" Steel Pipe Clamp (Cooper B-Line B3140).....	107.98	22.16
		For Work In Restricted Working Space, Add	13.30	
23 05 29 00-0191	EA	12" Steel Pipe Clamp (Cooper B-Line B3140).....	147.21	24.38
		For Work In Restricted Working Space, Add	14.63	
23 05 29 00-0192	EA	14" Steel Pipe Clamp (Cooper B-Line B3140).....	237.98	26.59
		For Work In Restricted Working Space, Add	15.95	
23 05 29 00-0193	EA	16" Steel Pipe Clamp (Cooper B-Line B3140).....	257.96	28.81
		For Work In Restricted Working Space, Add	17.29	
23 05 29 00-0194	EA	18" Steel Pipe Clamp (Cooper B-Line B3140).....	418.94	31.02
		For Work In Restricted Working Space, Add	18.62	
23 05 29 00-0195	EA	20" Steel Pipe Clamp (Cooper B-Line B3140).....	484.44	33.24
		For Work In Restricted Working Space, Add	19.94	
23 05 29 00-0196	EA	24" Steel Pipe Clamp (Cooper B-Line B3140).....	631.33	36.57
		For Work In Restricted Working Space, Add	21.94	
23 05 29 00-0197 Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142) (23 05 29 00-0175)				
23 05 29 00-0198	EA	3" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	36.82	7.18
		For Work In Restricted Working Space, Add	4.28	
23 05 29 00-0199	EA	4" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	48.41	7.18
		For Work In Restricted Working Space, Add	4.28	
23 05 29 00-0200	EA	5" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	53.15	7.44
		For Work In Restricted Working Space, Add	4.46	
23 05 29 00-0201	EA	6" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	84.96	7.70
		For Work In Restricted Working Space, Add	4.65	
23 05 29 00-0202	EA	8" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	92.44	8.21
		For Work In Restricted Working Space, Add	4.92	
23 05 29 00-0203	EA	10" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	158.38	8.21
		For Work In Restricted Working Space, Add	4.91	
23 05 29 00-0204	EA	12" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	256.39	9.23
		For Work In Restricted Working Space, Add	5.54	
23 05 29 00-0205	EA	14" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	325.31	10.26
		For Work In Restricted Working Space, Add	6.16	
23 05 29 00-0206	EA	16" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	353.72	12.31
		For Work In Restricted Working Space, Add	7.39	
23 05 29 00-0207	EA	18" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	1,100.23	14.37
		For Work In Restricted Working Space, Add	8.62	
23 05 29 00-0208	EA	20" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	1,264.69	15.39
		For Work In Restricted Working Space, Add	9.23	
23 05 29 00-0209	EA	24" Two Bolt Steel Heavy Duty Pipe Clamp (Cooper B-Line B3142).....	1,619.97	16.41
		For Work In Restricted Working Space, Add	9.85	
23 05 29 00-0210 Steel Riser Clamp (Cooper B-Line B3373) (23 05 29 00-0175)				
Note: Type 8.				
23 05 29 00-0211	EA	1/2" Steel Riser Clamp (Cooper B-Line B3373).....	18.19	6.16
		For Work In Restricted Working Space, Add	3.69	
23 05 29 00-0212	EA	3/4" Steel Riser Clamp (Cooper B-Line B3373).....	18.95	6.26
		For Work In Restricted Working Space, Add	3.76	
23 05 29 00-0213	EA	1" Steel Riser Clamp (Cooper B-Line B3373).....	19.23	6.36
		For Work In Restricted Working Space, Add	3.82	
23 05 29 00-0214	EA	1-1/4" Steel Riser Clamp (Cooper B-Line B3373).....	20.79	6.46
		For Work In Restricted Working Space, Add	3.88	
23 05 29 00-0215	EA	1-1/2" Steel Riser Clamp (Cooper B-Line B3373).....	21.60	6.57
		For Work In Restricted Working Space, Add	3.94	
23 05 29 00-0216	EA	2" Steel Riser Clamp (Cooper B-Line B3373).....	22.13	6.67
		For Work In Restricted Working Space, Add	4.00	
23 05 29 00-0217	EA	2-1/2" Steel Riser Clamp (Cooper B-Line B3373).....	23.07	6.87
		For Work In Restricted Working Space, Add	4.12	
23 05 29 00-0218	EA	3" Steel Riser Clamp (Cooper B-Line B3373).....	24.46	7.08
		For Work In Restricted Working Space, Add	4.25	
23 05 29 00-0219	EA	3-1/2" Steel Riser Clamp (Cooper B-Line B3373).....	26.90	7.18
		For Work In Restricted Working Space, Add	4.31	
23 05 29 00-0220	EA	4" Steel Riser Clamp (Cooper B-Line B3373).....	32.65	9.23
		For Work In Restricted Working Space, Add	5.54	
23 05 29 00-0221	EA	5" Steel Riser Clamp (Cooper B-Line B3373).....	42.21	12.31
		For Work In Restricted Working Space, Add	7.39	
23 05 29 00-0222	EA	6" Steel Riser Clamp (Cooper B-Line B3373).....	53.53	15.39
		For Work In Restricted Working Space, Add	9.23	
23 05 29 00-0223	EA	8" Steel Riser Clamp (Cooper B-Line B3373).....	73.16	17.96
		For Work In Restricted Working Space, Add	10.77	
23 05 29 00-0224	EA	10" Steel Riser Clamp (Cooper B-Line B3373).....	96.16	20.52
		For Work In Restricted Working Space, Add	12.31	
23 05 29 00-0225	EA	12" Steel Riser Clamp (Cooper B-Line B3373).....	116.33	22.57
		For Work In Restricted Working Space, Add	13.54	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0226	EA	14" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	156.36 14.78	24.63
23 05 29 00-0227	EA	16" Steel Riser Clamp (Cooper B-Line B3373)..... <i>For Work In Restricted Working Space, Add</i>	297.87 16.01	26.67
23 05 29 00-0228		Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C) (23 05 29 00-0175)		
23 05 29 00-0229	EA	1/2" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C) <i>For Work In Restricted Working Space, Add</i>	32.19 3.69	6.16
23 05 29 00-0230	EA	3/4" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C) <i>For Work In Restricted Working Space, Add</i>	32.69 3.76	6.26
23 05 29 00-0231	EA	1" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C) <i>For Work In Restricted Working Space, Add</i>	34.04 3.82	6.36
23 05 29 00-0232	EA	1-1/4" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C) <i>For Work In Restricted Working Space, Add</i>	36.40 3.85	6.46
23 05 29 00-0233	EA	1-1/2" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C) <i>For Work In Restricted Working Space, Add</i>	41.12 3.94	6.57
23 05 29 00-0234	EA	2" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C) <i>For Work In Restricted Working Space, Add</i>	43.70 4.00	6.67
23 05 29 00-0235	EA	2-1/2" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C) <i>For Work In Restricted Working Space, Add</i>	47.29 4.12	6.87
23 05 29 00-0236	EA	3" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C) <i>For Work In Restricted Working Space, Add</i>	51.98 4.25	7.08
23 05 29 00-0237	EA	4" Steel Riser Clamp, Plastic Coated (Cooper B-Line B3373C) <i>For Work In Restricted Working Space, Add</i>	70.40 5.54	9.23
23 05 29 00-0238		Two Bolt Steel Underground Clamp (Cooper B-Line B3132) (23 05 29 00-0175)		
		Note: Type 42		
23 05 29 00-0239	EA	4" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	72.60 4.28	7.18
23 05 29 00-0240	EA	6" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	77.07 4.65	7.70
23 05 29 00-0241	EA	8" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	84.63 4.92	8.21
23 05 29 00-0242	EA	10" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	90.35 4.91	8.21
23 05 29 00-0243	EA	12" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	109.33 5.54	9.23
23 05 29 00-0244	EA	14" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	340.01 6.16	10.26
23 05 29 00-0245	EA	16" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	455.55 7.39	12.31
23 05 29 00-0246	EA	18" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	542.83 8.62	14.37
23 05 29 00-0247	EA	20" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	790.90 9.23	15.39
23 05 29 00-0248	EA	24" Two Bolt Steel Underground Clamp (Cooper B-Line B3132)..... <i>For Work In Restricted Working Space, Add</i>	1,090.20 9.85	16.41
23 05 29 00-0249		Four Bolt Steel Underground Clamp (Cooper B-Line B3134) (23 05 29 00-0175)		
23 05 29 00-0250	EA	4" Four Bolt Steel Underground Clamp (Cooper B-Line B3134)..... <i>For Work In Restricted Working Space, Add</i>	67.00 4.28	7.18
23 05 29 00-0251	EA	6" Four Bolt Steel Underground Clamp (Cooper B-Line B3134)..... <i>For Work In Restricted Working Space, Add</i>	72.26 4.65	7.70
23 05 29 00-0252	EA	8" Four Bolt Steel Underground Clamp (Cooper B-Line B3134)..... <i>For Work In Restricted Working Space, Add</i>	126.42 4.92	8.21
23 05 29 00-0253	EA	10" Four Bolt Steel Underground Clamp (Cooper B-Line B3134)..... <i>For Work In Restricted Working Space, Add</i>	140.59 4.91	8.21
23 05 29 00-0254	EA	12" Four Bolt Steel Underground Clamp (Cooper B-Line B3134)..... <i>For Work In Restricted Working Space, Add</i>	201.96 5.54	9.23
23 05 29 00-0255	EA	14" Four Bolt Steel Underground Clamp (Cooper B-Line B3134)..... <i>For Work In Restricted Working Space, Add</i>	309.78 6.16	10.26
23 05 29 00-0256	EA	16" Four Bolt Steel Underground Clamp (Cooper B-Line B3134)..... <i>For Work In Restricted Working Space, Add</i>	415.58 7.39	12.31
23 05 29 00-0257	EA	18" Four Bolt Steel Underground Clamp (Cooper B-Line B3134)..... <i>For Work In Restricted Working Space, Add</i>	494.63 8.62	14.37
23 05 29 00-0258	EA	20" Four Bolt Steel Underground Clamp (Cooper B-Line B3134)..... <i>For Work In Restricted Working Space, Add</i>	723.22 9.23	15.39
23 05 29 00-0259	EA	24" Four Bolt Steel Underground Clamp (Cooper B-Line B3134)..... <i>For Work In Restricted Working Space, Add</i>	990.01 9.85	16.41
23 05 29 00-0260		Split Pipe Clamps And Rings (23 05 29 00-0001)		
23 05 29 00-0261		Adjustable Split Ring Swivel Hanger (Cooper B-Line B3171) (23 05 29 00-0260)		
		Note: Type 6.		
23 05 29 00-0262	EA	3/4" Adjustable Swivel Ring (Cooper B-Line B3171) <i>For Work In Restricted Working Space, Add</i>	30.15 5.65	9.42
23 05 29 00-0263	EA	1" Adjustable Swivel Ring (Cooper B-Line B3171) <i>For Work In Restricted Working Space, Add</i>	31.92 5.98	9.98
23 05 29 00-0264	EA	1-1/4" Adjustable Swivel Ring (Cooper B-Line B3171) <i>For Work In Restricted Working Space, Add</i>	34.72 6.65	11.08



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0265	EA	1-1/2" Adjustable Swivel Ring (Cooper B-Line B3171)..... <i>For Work In Restricted Working Space, Add</i>	37.41 6.98	11.63
23 05 29 00-0266	EA	2" Adjustable Swivel Ring (Cooper B-Line B3171)..... <i>For Work In Restricted Working Space, Add</i>	40.41 7.31	12.19
23 05 29 00-0267	EA	2-1/2" Adjustable Swivel Ring (Cooper B-Line B3171)..... <i>For Work In Restricted Working Space, Add</i>	49.93 7.65	12.74
23 05 29 00-0268	EA	3" Adjustable Swivel Ring (Cooper B-Line B3171)..... <i>For Work In Restricted Working Space, Add</i>	54.79 7.98	13.30
23 05 29 00-0269	EA	4" Adjustable Swivel Ring (Cooper B-Line B3171)..... <i>For Work In Restricted Working Space, Add</i>	72.95 8.98	14.96
23 05 29 00-0270	EA	5" Adjustable Swivel Ring (Cooper B-Line B3171)..... <i>For Work In Restricted Working Space, Add</i>	92.75 11.30	18.84
23 05 29 00-0271	EA	6" Adjustable Swivel Ring (Cooper B-Line B3171)..... <i>For Work In Restricted Working Space, Add</i>	124.05 13.30	22.16
23 05 29 00-0272		Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R) (23 05 29 00-0260) Note: Type 11.		
23 05 29 00-0273	EA	1/2" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R)..... <i>For Work In Restricted Working Space, Add</i>	19.57 4.77	7.80
23 05 29 00-0274	EA	3/4" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R)..... <i>For Work In Restricted Working Space, Add</i>	20.65 4.99	7.80
23 05 29 00-0275	EA	1" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R)..... <i>For Work In Restricted Working Space, Add</i>	22.73 5.57	10.03
23 05 29 00-0276	EA	1-1/4" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R)..... <i>For Work In Restricted Working Space, Add</i>	24.72 5.87	10.03
23 05 29 00-0277	EA	1-1/2" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R)..... <i>For Work In Restricted Working Space, Add</i>	27.61 6.08	10.03
23 05 29 00-0278	EA	2" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R)..... <i>For Work In Restricted Working Space, Add</i>	32.30 6.69	11.14
23 05 29 00-0279	EA	2-1/2" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R)..... <i>For Work In Restricted Working Space, Add</i>	43.20 6.96	11.14
23 05 29 00-0280	EA	3" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R)..... <i>For Work In Restricted Working Space, Add</i>	48.05 7.27	12.26
23 05 29 00-0281	EA	4" Extension Split Pipe Clamp, Malleable Iron (Cooper B-Line B3198R)..... <i>For Work In Restricted Working Space, Add</i>	51.15 7.96	13.38
23 05 29 00-0282		Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H) (23 05 29 00-0260) Note: Type 12.		
23 05 29 00-0283	EA	1/2" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H)..... <i>For Work In Restricted Working Space, Add</i>	19.57 4.77	7.80
23 05 29 00-0284	EA	3/4" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H)..... <i>For Work In Restricted Working Space, Add</i>	20.65 4.99	8.36
23 05 29 00-0285	EA	1" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H)..... <i>For Work In Restricted Working Space, Add</i>	22.73 5.57	9.47
23 05 29 00-0286	EA	1-1/4" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H)..... <i>For Work In Restricted Working Space, Add</i>	24.72 5.87	10.03
23 05 29 00-0287	EA	1-1/2" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H)..... <i>For Work In Restricted Working Space, Add</i>	27.61 6.08	10.03
23 05 29 00-0288	EA	2" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H)..... <i>For Work In Restricted Working Space, Add</i>	32.30 6.69	11.14
23 05 29 00-0289	EA	2-1/2" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H)..... <i>For Work In Restricted Working Space, Add</i>	43.20 6.96	11.70
23 05 29 00-0290	EA	3" Hinged Extension Split Pipe Clamp (Cooper B-Line B3198H)..... <i>For Work In Restricted Working Space, Add</i>	48.05 7.27	12.26
23 05 29 00-0291		Pipe Straps (23 05 29 00-0001)		
23 05 29 00-0292		Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B-3180) (23 05 29 00-0291)		
23 05 29 00-0293	EA	1/2" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180)..... <i>For Work In Restricted Working Space, Add</i>	13.31 3.34	5.57
23 05 29 00-0294	EA	3/4" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180)..... <i>For Work In Restricted Working Space, Add</i>	13.89 3.52	6.69
23 05 29 00-0295	EA	1" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180)..... <i>For Work In Restricted Working Space, Add</i>	14.55 3.71	6.69
23 05 29 00-0296	EA	1-1/4" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180)..... <i>For Work In Restricted Working Space, Add</i>	15.37 3.93	6.69
23 05 29 00-0297	EA	1-1/2" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180)..... <i>For Work In Restricted Working Space, Add</i>	16.27 4.18	7.80
23 05 29 00-0298	EA	2" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180)..... <i>For Work In Restricted Working Space, Add</i>	18.71 4.46	7.80
23 05 29 00-0299	EA	2-1/2" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180)..... <i>For Work In Restricted Working Space, Add</i>	22.87 4.77	7.80
23 05 29 00-0300	EA	3" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180)..... <i>For Work In Restricted Working Space, Add</i>	29.32 5.14	7.80
23 05 29 00-0301	EA	4" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180)..... <i>For Work In Restricted Working Space, Add</i>	34.72 6.02	10.03
23 05 29 00-0302	EA	6" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180)..... <i>For Work In Restricted Working Space, Add</i>	42.50 6.69	11.14
23 05 29 00-0303	EA	8" Standard Two Hole Pipe Strap, Galvanized Steel (Cooper B-Line B3180)..... <i>For Work In Restricted Working Space, Add</i>	52.98 7.35	12.26

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 29 00-0304 Two Hole Copper-Clad Pipe Straps (23 05 29 00-0291)

23 05 29 00-0305	EA	1/2" Two Hole Copper-Clad Pipe Strap	6.21	
		<i>For Work In Restricted Working Space, Add</i>	1.67	
23 05 29 00-0306	EA	3/4" Two Hole Copper-Clad Pipe Strap	6.60	
		<i>For Work In Restricted Working Space, Add</i>	1.76	
23 05 29 00-0307	EA	1" Two Hole Copper-Clad Pipe Strap	7.43	
		<i>For Work In Restricted Working Space, Add</i>	1.84	
23 05 29 00-0308	EA	1-1/4" Two Hole Copper-Clad Pipe Strap	8.31	
		<i>For Work In Restricted Working Space, Add</i>	1.92	
23 05 29 00-0309	EA	1-1/2" Two Hole Copper-Clad Pipe Strap	8.95	
		<i>For Work In Restricted Working Space, Add</i>	2.01	
23 05 29 00-0310	EA	2" Two Hole Copper-Clad Pipe Strap	9.71	
		<i>For Work In Restricted Working Space, Add</i>	2.17	

23 05 29 00-0311 One Hole Galvanized Steel Pipe Straps (23 05 29 00-0291)

23 05 29 00-0312	EA	1/2" One Hole Galvanized Steel Pipe Strap (Anvil 185D)	2.81	
		<i>For Work In Restricted Working Space, Add</i>	0.56	
23 05 29 00-0313	EA	3/4" One Hole Galvanized Steel Pipe Strap (Anvil 185D)	3.36	
		<i>For Work In Restricted Working Space, Add</i>	0.60	
23 05 29 00-0314	EA	1" One Hole Galvanized Steel Pipe Strap (Anvil 185D)	3.61	
		<i>For Work In Restricted Working Space, Add</i>	0.65	
23 05 29 00-0315	EA	1-1/4" Galvanized Steel Strap, 1 Hole	3.87	
		<i>For Work In Restricted Working Space, Add</i>	0.70	
23 05 29 00-0316	EA	1-1/2" Galvanized Steel Strap, 1 Hole	4.16	
		<i>For Work In Restricted Working Space, Add</i>	0.76	
23 05 29 00-0317	EA	2" Galvanized Steel Strap, 1 Hole	4.65	
		<i>For Work In Restricted Working Space, Add</i>	0.84	

23 05 29 00-0318 Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B-2400 Or Tripac 2STR) (23 05 29 00-0291)

Note: Designed for supporting pipe runs from strut supports.				
23 05 29 00-0319	EA	1/2" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-1/2ZN)	45.15	17.83
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	10.70	
23 05 29 00-0320	EA	3/4" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-3/4ZN)	48.91	19.50
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	11.70	
23 05 29 00-0321	EA	1" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-1ZN)	52.83	21.17
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	12.70	
23 05 29 00-0322	EA	1-1/4" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-11/4ZN)	56.78	22.84
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	13.70	
23 05 29 00-0323	EA	1-1/2" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-11/2ZN)	61.66	24.51
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	14.71	
23 05 29 00-0324	EA	2" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-2ZN)	70.64	26.74
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	16.04	
23 05 29 00-0325	EA	2-1/2" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-21/2ZN)	78.04	29.53
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	17.72	
23 05 29 00-0326	EA	3" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-3ZN)	85.50	32.86
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	19.72	
23 05 29 00-0327	EA	3-1/2" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-31/2ZN)	86.25	32.86
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	19.72	
23 05 29 00-0328	EA	4" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-4ZN)	100.16	38.44
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	23.06	
23 05 29 00-0329	EA	5" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-5ZN)	119.59	44.57
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	26.41	
23 05 29 00-0330	EA	6" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-6ZN)	134.57	49.58
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	29.75	
23 05 29 00-0331	EA	8" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-8AN)	162.56	60.17
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	36.10	
23 05 29 00-0332	EA	10" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-10AN)	193.15	70.19
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	42.12	
23 05 29 00-0333	EA	12" Standard Two Hole Pipe Strap, Zinc Coated Steel (Cooper B-Line B2400-12AN)	219.30	77.99
		Note: Designed for supporting pipe runs from strut supports.		
		<i>For Work In Restricted Working Space, Add</i>	46.80	

23 05 29 00-0334 Standard Two Hole Pipe Strap, Stainless Steel (Cooper B-Line B-2400) (23 05 29 00-0291)



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0335 EA 1/2" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-1/2SS4).....	63.57	17.83
For Work In Restricted Working Space, Add	10.70	
23 05 29 00-0336 EA 3/4" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-3/4SS4).....	68.12	20.05
For Work In Restricted Working Space, Add	11.70	
23 05 29 00-0337 EA 1" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-1SS4).....	71.52	21.17
For Work In Restricted Working Space, Add	12.70	
23 05 29 00-0338 EA 1-1/4" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-11/4SS4).....	82.68	23.40
For Work In Restricted Working Space, Add	13.70	
23 05 29 00-0339 EA 1-1/2" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-11/2SS4).....	81.87	24.51
For Work In Restricted Working Space, Add	14.71	
23 05 29 00-0340 EA 2" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-2SS4).....	100.98	26.74
For Work In Restricted Working Space, Add	16.04	
23 05 29 00-0341 EA 2-1/2" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-21/2SS4).....	96.46	24.51
For Work In Restricted Working Space, Add	14.37	
23 05 29 00-0342 EA 3" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-3SS4).....	116.43	33.43
For Work In Restricted Working Space, Add	19.72	
23 05 29 00-0343 EA 3-1/2" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-31/2SS4).....	128.66	35.65
For Work In Restricted Working Space, Add	21.39	
23 05 29 00-0344 EA 4" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-4SS4).....	144.01	39.00
For Work In Restricted Working Space, Add	23.06	
23 05 29 00-0345 EA 5" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-5SS4).....	185.53	44.57
For Work In Restricted Working Space, Add	26.41	
23 05 29 00-0346 EA 6" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-6SS4).....	203.42	50.14
For Work In Restricted Working Space, Add	29.75	
23 05 29 00-0347 EA 8" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-8SS4).....	253.87	60.17
For Work In Restricted Working Space, Add	36.10	
23 05 29 00-0348 EA 10" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-10SS4).....	294.53	70.19
For Work In Restricted Working Space, Add	42.12	
23 05 29 00-0349 EA 12" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-12SS4).....	533.17	77.99
For Work In Restricted Working Space, Add	46.80	
23 05 29 00-0350 EA 14" Standard Two Hole Pipe Strap, 304 Stainless Steel (Cooper B-Line B2400-14SS4).....	391.23	85.79
For Work In Restricted Working Space, Add	51.47	
23 05 29 00-0351 Pipe and Equipment Support Brackets (23 05 29 00-0001)		
23 05 29 00-0352 Pipe and Equipment Supports, Light Duty Welded Steel Bracket (Cooper B-Line B3068) (23 05 29 00-0351)		
Note: Up to 750# load.		
23 05 29 00-0353 EA 9" x 9" Light Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3068).....	121.63	12.31
For Work In Restricted Working Space, Add	7.39	
For Galvanized, Add	19.40	
23 05 29 00-0354 EA 13" x 13" Light Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3068).....	123.40	12.31
For Work In Restricted Working Space, Add	7.39	
For Galvanized, Add	19.75	
23 05 29 00-0355 EA 19" x 19" Light Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3068).....	130.42	12.31
For Work In Restricted Working Space, Add	7.39	
For Galvanized, Add	21.16	
23 05 29 00-0356 Pipe and Equipment Supports, Medium Duty Welded Steel Bracket (Cooper B-Line B3066) (23 05 29 00-0351)		
Note: Up to 1500# load.		
23 05 29 00-0357 EA 12" Wide x 18" Deep Medium Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3066).....	293.02	12.31
For Work In Restricted Working Space, Add	7.39	
For Galvanized, Add	53.68	
23 05 29 00-0358 EA 18" Wide x 24" Deep Medium Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3066).....	343.48	12.31
For Work In Restricted Working Space, Add	7.39	
For Galvanized, Add	63.77	
23 05 29 00-0359 EA 24" Wide x 30" Deep Medium Duty Welded Steel Bracket, Wall Mounted (Cooper B-Line B3066).....	446.36	12.31
For Work In Restricted Working Space, Add	7.39	
For Galvanized, Add	84.35	
23 05 29 00-0360 Pipe Alignment Guide (23 05 29 00-0001)		
23 05 29 00-0361 Pipe Alignment Guide, 1" Insulation (23 05 29 00-0360)		
23 05 29 00-0362 EA 1/2" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-1/2).....	555.90	19.50
23 05 29 00-0363 EA 3/4" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-3/4).....	556.92	20.01
23 05 29 00-0364 EA 1" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-1).....	557.95	20.52
23 05 29 00-0365 EA 1-1/4" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-1-1/4).....	558.98	21.03
23 05 29 00-0366 EA 1-1/2" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-1-1/2).....	610.36	21.54
23 05 29 00-0367 EA 2" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-2).....	622.29	23.60
23 05 29 00-0368 EA 2-1/2" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-2-1/2).....	623.83	24.37
23 05 29 00-0369 EA 3" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-3).....	625.36	25.14
23 05 29 00-0370 EA 4" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-4).....	661.85	26.67
23 05 29 00-0371 EA 5" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-5).....	771.02	33.86
23 05 29 00-0372 EA 6" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-6).....	785.38	41.04
23 05 29 00-0373 EA 8" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-8).....	883.73	51.30
23 05 29 00-0374 EA 10" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-10).....	1,643.65	61.56
23 05 29 00-0375 EA 12" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-12).....	2,504.85	82.08
23 05 29 00-0376 EA 14" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-14).....	3,081.91	102.60
23 05 29 00-0377 EA 16" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-16).....	3,710.72	114.91

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0378 EA 18" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-18).....	4,001.06	128.26
23 05 29 00-0379 EA 20" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-20).....	4,249.18	146.73
23 05 29 00-0380 EA 24" Diameter Pipe Alignment Guide, 1" Insulation (Cooper B-Line B3281-24).....	5,362.79	153.91
23 05 29 00-0381 Pipe Alignment Guide, 1-1/2" Insulation (23 05 29 00-0360)		
23 05 29 00-0382 EA 1/2" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-1/2).....	556.92	20.01
23 05 29 00-0383 EA 3/4" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-3/4).....	608.30	20.52
23 05 29 00-0384 EA 1" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-1).....	609.33	21.03
23 05 29 00-0385 EA 1-1/4" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-1-1/4).....	610.36	21.54
23 05 29 00-0386 EA 1-1/2" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-1-1/2).....	611.38	22.06
23 05 29 00-0387 EA 2" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-2).....	623.32	24.11
23 05 29 00-0388 EA 2-1/2" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-2-1/2).....	624.85	24.88
23 05 29 00-0389 EA 3" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-3).....	659.79	25.66
23 05 29 00-0390 EA 4" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-4).....	662.87	27.19
23 05 29 00-0391 EA 5" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-5).....	772.56	34.63
23 05 29 00-0392 EA 6" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-6).....	787.44	42.07
23 05 29 00-0393 EA 8" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-8).....	886.30	52.58
23 05 29 00-0394 EA 10" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-10).....	1,646.72	63.10
23 05 29 00-0395 EA 12" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-12).....	2,508.95	84.14
23 05 29 00-0396 EA 14" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-14).....	3,087.04	105.17
23 05 29 00-0397 EA 16" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-16).....	3,716.88	118.00
23 05 29 00-0398 EA 18" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-18).....	4,007.22	131.34
23 05 29 00-0399 EA 20" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-20).....	4,256.37	150.31
23 05 29 00-0400 EA 24" Diameter Pipe Alignment Guide, 1-1/2" Insulation (Cooper B-Line B3282-24).....	5,370.49	157.76
23 05 29 00-0401 Pipe Alignment Guide, 2" Insulation (23 05 29 00-0360)		
23 05 29 00-0402 EA 1/2" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-1/2).....	608.30	20.52
23 05 29 00-0403 EA 3/4" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-3/4).....	617.16	21.03
23 05 29 00-0404 EA 1" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-1).....	618.19	21.54
23 05 29 00-0405 EA 1-1/4" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-1-1/4).....	619.21	22.06
23 05 29 00-0406 EA 1-1/2" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-1-1/2).....	620.23	22.57
23 05 29 00-0407 EA 2" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-2).....	657.74	24.63
23 05 29 00-0408 EA 2-1/2" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-2-1/2).....	659.79	25.66
23 05 29 00-0409 EA 3" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-3).....	661.07	26.29
23 05 29 00-0410 EA 4" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-4).....	758.71	27.70
23 05 29 00-0411 EA 5" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-5).....	774.10	35.40
23 05 29 00-0412 EA 6" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-6).....	867.32	43.10
23 05 29 00-0413 EA 8" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-8).....	975.06	53.87
23 05 29 00-0414 EA 10" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-10).....	1,649.80	64.64
23 05 29 00-0415 EA 12" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-12).....	2,513.05	86.19
23 05 29 00-0416 EA 14" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-14).....	3,092.17	107.74
23 05 29 00-0417 EA 16" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-16).....	3,722.80	120.96
23 05 29 00-0418 EA 18" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-18).....	4,013.89	134.66
23 05 29 00-0419 EA 20" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-20).....	4,263.54	153.91
23 05 29 00-0420 EA 24" Diameter Pipe Alignment Guide, 2" Insulation (Cooper B-Line B3283-24).....	5,378.19	161.60
23 05 29 00-0421 Pipe Alignment Guide, 2-1/2" Insulation (23 05 29 00-0360)		
23 05 29 00-0422 EA 1/2" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-1/2).....	617.16	21.03
23 05 29 00-0423 EA 3/4" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-3/4).....	651.59	21.54
23 05 29 00-0424 EA 1" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-1).....	652.61	22.06
23 05 29 00-0425 EA 1-1/4" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-1-1/4).....	653.63	22.57
23 05 29 00-0426 EA 1-1/2" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-1-1/2).....	654.66	23.09
23 05 29 00-0427 EA 2" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-2).....	658.76	25.14
23 05 29 00-0428 EA 2-1/2" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-2-1/2).....	661.07	26.29
23 05 29 00-0429 EA 3" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-3).....	757.17	26.93
23 05 29 00-0430 EA 4" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-4).....	759.73	28.21
23 05 29 00-0431 EA 5" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-5).....	852.96	35.91
23 05 29 00-0432 EA 6" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-6).....	869.37	44.12
23 05 29 00-0433 EA 8" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-8).....	1,630.82	55.15
23 05 29 00-0434 EA 10" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-10).....	2,473.04	66.18
23 05 29 00-0435 EA 12" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-12).....	3,053.18	88.24
23 05 29 00-0436 EA 14" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-14).....	3,097.83	110.30
23 05 29 00-0437 EA 16" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-16).....	3,729.19	124.15
23 05 29 00-0438 EA 18" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-18).....	4,020.56	138.00
23 05 29 00-0439 EA 20" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-20).....	4,271.24	157.76
23 05 29 00-0440 EA 24" Diameter Pipe Alignment Guide, 2-1/2" Insulation (Cooper B-Line B3284-24).....	5,386.39	165.71
23 05 29 00-0441 Pipe Alignment Guide, 3" Insulation (23 05 29 00-0360)		
23 05 29 00-0442 EA 1/2" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-1/2).....	651.59	21.54
23 05 29 00-0443 EA 3/4" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-3/4).....	652.61	22.06
23 05 29 00-0444 EA 1" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-1).....	653.63	22.57
23 05 29 00-0445 EA 1-1/4" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-1-1/4).....	654.66	23.09
23 05 29 00-0446 EA 1-1/2" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-1-1/2).....	655.69	23.60
23 05 29 00-0447 EA 2" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-2).....	754.60	25.66
23 05 29 00-0448 EA 2-1/2" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-2-1/2).....	757.17	26.93
23 05 29 00-0449 EA 3" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-3).....	758.71	27.70



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0450 EA 4" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-4).....	839.00	28.93
23 05 29 00-0451 EA 5" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-5).....	855.00	36.94
23 05 29 00-0452 EA 6" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-6).....	957.62	45.14
23 05 29 00-0453 EA 8" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-8).....	1,633.39	56.43
23 05 29 00-0454 EA 10" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-10).....	2,476.12	67.72
23 05 29 00-0455 EA 12" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-12).....	3,057.28	90.30
23 05 29 00-0456 EA 14" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-14).....	3,102.96	112.87
23 05 29 00-0457 EA 16" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-16).....	3,735.34	127.23
23 05 29 00-0458 EA 18" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-18).....	4,026.72	141.08
23 05 29 00-0459 EA 20" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-20).....	4,278.94	161.60
23 05 29 00-0460 EA 24" Diameter Pipe Alignment Guide, 3" Insulation (Cooper B-Line B3285-24).....	5,394.60	169.81
23 05 29 00-0461 Pipe Alignment Guide, 3-1/2" Insulation (23 05 29 00-0360)		
23 05 29 00-0462 EA 1/2" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-1/2).....	652.61	22.06
23 05 29 00-0463 EA 3/4" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-3/4).....	748.44	22.57
23 05 29 00-0464 EA 1" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-1).....	749.47	23.09
23 05 29 00-0465 EA 1-1/4" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-1-1/4).....	750.50	23.60
23 05 29 00-0466 EA 1-1/2" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-1-1/2).....	751.53	24.11
23 05 29 00-0467 EA 2" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-2).....	755.88	26.29
23 05 29 00-0468 EA 2-1/2" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-2-1/2).....	758.50	27.60
23 05 29 00-0469 EA 3" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-3).....	837.92	28.40
23 05 29 00-0470 EA 4" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-4).....	840.64	29.76
23 05 29 00-0471 EA 5" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-5).....	943.25	37.97
23 05 29 00-0472 EA 6" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-6).....	1,612.86	46.17
23 05 29 00-0473 EA 8" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-8).....	2,456.11	57.72
23 05 29 00-0474 EA 10" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-10).....	3,016.06	69.41
23 05 29 00-0475 EA 12" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-12).....	3,665.56	92.34
23 05 29 00-0476 EA 14" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-14).....	3,712.25	115.69
23 05 29 00-0477 EA 16" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-16).....	4,017.59	130.31
23 05 29 00-0478 EA 18" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-18).....	4,245.07	144.67
23 05 29 00-0479 EA 20" Diameter Pipe Alignment Guide, 3-1/2" Insulation (Cooper B-Line B3286-20).....	5,385.36	165.20
23 05 29 00-0480 Pipe Alignment Guide, 4" Insulation (23 05 29 00-0360)		
23 05 29 00-0481 EA 1/2" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-1/2).....	748.44	22.57
23 05 29 00-0482 EA 3/4" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-3/4).....	749.47	23.09
23 05 29 00-0483 EA 1" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-1).....	750.50	23.60
23 05 29 00-0484 EA 1-1/4" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-1-1/4).....	751.53	24.11
23 05 29 00-0485 EA 1-1/2" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-1-1/2).....	752.55	24.63
23 05 29 00-0486 EA 2" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-2).....	835.00	26.93
23 05 29 00-0487 EA 2-1/2" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-2-1/2).....	837.56	28.21
23 05 29 00-0488 EA 3" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-3).....	839.30	29.09
23 05 29 00-0489 EA 4" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-4).....	928.37	30.52
23 05 29 00-0490 EA 5" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-5).....	1,598.50	38.99
23 05 29 00-0491 EA 6" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-6).....	1,614.92	47.20
23 05 29 00-0492 EA 8" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-8).....	2,458.68	59.00
23 05 29 00-0493 EA 10" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-10).....	3,019.85	71.31
23 05 29 00-0494 EA 12" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-12).....	3,670.19	94.65
23 05 29 00-0495 EA 14" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-14).....	3,980.55	118.00
23 05 29 00-0496 EA 16" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-16).....	4,222.50	133.38
23 05 29 00-0497 EA 18" Diameter Pipe Alignment Guide, 4" Insulation (Cooper B-Line B3287-18).....	5,352.53	148.78
23 05 29 00-0498 Sway Bracing For No Hub Pipe (23 05 29 00-0001)		
23 05 29 00-0499 EA 1-1/2" Sway Bracing	153.81	13.54
For Work In Restricted Working Space, Add	8.10	
23 05 29 00-0500 EA 2" Sway Bracing	158.32	14.26
For Work In Restricted Working Space, Add	8.55	
23 05 29 00-0501 EA 3" Sway Bracing	163.85	15.08
For Work In Restricted Working Space, Add	9.05	
23 05 29 00-0502 EA 4" Sway Bracing	185.99	17.13
For Work In Restricted Working Space, Add	10.26	
23 05 29 00-0503 EA 6" Sway Bracing	272.65	25.66
For Work In Restricted Working Space, Add	15.39	
23 05 29 00-0504 EA 8" Sway Bracing	300.51	32.01
For Work In Restricted Working Space, Add	19.24	
23 05 29 00-0505 EA 10" Sway Bracing	336.02	42.79
For Work In Restricted Working Space, Add	25.65	
23 05 29 00-0506 Pipe Stand With Adjustable Saddle (Cooper B-Line B3088T-18 Base, B3093 Adjustable Pipe Saddle) (23 05 29 00-0001)		
Note: Heights listed is total for base and adjustable saddle		
23 05 29 00-0507 EA 23" to 28" High Pipe Stand With Adjustable Saddle For 1-1/4" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	332.40	10.26
For Work In Restricted Working Space, Add	6.16	
23 05 29 00-0508 EA 24" to 29" High Pipe Stand With Adjustable Saddle For 1-1/2" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle).....	339.82	11.29
For Work In Restricted Working Space, Add	6.77	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0509	EA		24" to 29" High Pipe Stand With Adjustable Saddle For 2" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 682.74	12.83	
			<i>For Work In Restricted Working Space, Add</i> 7.70		
23 05 29 00-0510	EA		24" to 29" High Pipe Stand With Adjustable Saddle For 2-1/2" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 831.20	14.37	
			<i>For Work In Restricted Working Space, Add</i> 8.62		
23 05 29 00-0511	EA		24" to 29" High Pipe Stand With Adjustable Saddle For 3" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 841.64	15.90	
			<i>For Work In Restricted Working Space, Add</i> 9.54		
23 05 29 00-0512	EA		25" to 29" High Pipe Stand With Adjustable Saddle For 3-1/2" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 926.63	17.96	
			<i>For Work In Restricted Working Space, Add</i> 10.77		
23 05 29 00-0513	EA		25" to 30" High Pipe Stand With Adjustable Saddle For 4" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 1,104.08	19.50	
			<i>For Work In Restricted Working Space, Add</i> 11.70		
23 05 29 00-0514	EA		25" to 30" High Pipe Stand With Adjustable Saddle For 5" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 1,116.85	21.03	
			<i>For Work In Restricted Working Space, Add</i> 12.62		
23 05 29 00-0515	EA		26" to 31" High Pipe Stand With Adjustable Saddle For 6" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 1,133.16	23.09	
			<i>For Work In Restricted Working Space, Add</i> 13.85		
23 05 29 00-0516	EA		28" to 33" High Pipe Stand With Adjustable Saddle For 8" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 1,180.36	25.14	
			<i>For Work In Restricted Working Space, Add</i> 15.08		
23 05 29 00-0517	EA		29" to 34" High Pipe Stand With Adjustable Saddle For 10" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 1,265.40	27.70	
			<i>For Work In Restricted Working Space, Add</i> 16.62		
23 05 29 00-0518	EA		30" to 35" High Pipe Stand With Adjustable Saddle For 12" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 1,302.98	30.78	
			<i>For Work In Restricted Working Space, Add</i> 18.47		
23 05 29 00-0519	EA		32" to 37" High Pipe Stand With Adjustable Saddle For 14" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 1,588.36	33.86	
			<i>For Work In Restricted Working Space, Add</i> 20.32		
23 05 29 00-0520	EA		33" to 38" High Pipe Stand With Adjustable Saddle For 16" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 1,734.11	37.97	
			<i>For Work In Restricted Working Space, Add</i> 22.78		
23 05 29 00-0521	EA		35" to 40" High Pipe Stand With Adjustable Saddle For 18" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 2,448.21	42.07	
			<i>For Work In Restricted Working Space, Add</i> 25.24		
23 05 29 00-0522	EA		36" to 41" High Pipe Stand With Adjustable Saddle For 20" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 3,026.16	46.17	
			<i>For Work In Restricted Working Space, Add</i> 27.70		
23 05 29 00-0523	EA		39" to 44" High Pipe Stand With Adjustable Saddle For 24" Pipe (Cooper B-Line B3088T-18 Base, With B3093 Adjustable Pipe Saddle) 3,641.28	50.27	
			<i>For Work In Restricted Working Space, Add</i> 30.17		
23 05 29 00-0524			Channel Mounted Cushion Clamp (23 05 29 00-0001)		
			Note: Includes fastening into channel.		
23 05 29 00-0525	EA		1/2" Channel Mounted Cushion Clamp For 3/8" Pipe (Cooper B-Line BVT050).....12.67	4.62	
23 05 29 00-0526	EA		5/8" Channel Mounted Cushion Clamp For 1/2" Pipe (Cooper B-Line BVT062).....13.35	5.13	
23 05 29 00-0527	EA		7/8" Channel Mounted Cushion Clamp For 3/4" Pipe (Cooper B-Line BVT087).....14.85	5.39	
23 05 29 00-0528	EA		1-1/8" Channel Mounted Cushion Clamp For 1" Pipe (Cooper B-Line BVT112).....15.94	5.64	
23 05 29 00-0529	EA		1-3/8" Channel Mounted Cushion Clamp For 1-1/4" Pipe (Cooper B-Line BVT137).....17.83	6.16	
23 05 29 00-0530	EA		1-5/8" Channel Mounted Cushion Clamp For 1-1/2" Pipe (Cooper B-Line BVT162).....20.03	6.41	
23 05 29 00-0531	EA		2-1/8" Channel Mounted Cushion Clamp For 2" Pipe (Cooper B-Line BVT212).....25.65	6.67	
23 05 29 00-0532	EA		2-5/8" Channel Mounted Cushion Clamp For 2-1/2" Pipe (Cooper B-Line BVT262).....28.41	7.18	
23 05 29 00-0533	EA		3-1/8" Channel Mounted Cushion Clamp For 3" Pipe (Cooper B-Line BVT312).....35.06	8.21	
23 05 29 00-0534	EA		4-1/8" Channel Mounted Cushion Clamp For 4" Pipe (Cooper B-Line BVT412).....53.93	9.23	
23 05 29 00-0535			Galvanized Steel Cushion Tube Clamp (KMC) (23 05 29 00-0001)		
			Note: Excludes fastening bolt and drilling if necessary.		
23 05 29 00-0536	EA		1/2" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 3/8" Pipe.....3.91		
			Note: 19/32" Center To Center Length, 9/32" Hole Diameter For Screw		
23 05 29 00-0537	EA		1/2" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 3/8" Pipe.....4.05		
			Note: 23/32" Center To Center Length, 13/32" Hole Diameter For Screw		
23 05 29 00-0538	EA		5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 1/2" Pipe.....4.14		
			Note: 23/32" Center To Center Length, 9/32" Hole Diameter For Screw		
23 05 29 00-0539	EA		5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 1/2" Pipe.....4.36		
			Note: 27/32" Center To Center Length, 13/32" Hole Diameter For Screw		
23 05 29 00-0540	EA		7/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 3/4" Pipe.....4.09		
			Note: 27/32" Center To Center Length, 9/32" Hole Diameter For Screw		
23 05 29 00-0541	EA		7/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 3/4" Pipe.....4.50		
			Note: 31/32" Center To Center Length, 13/32" Hole Diameter For Screw		
23 05 29 00-0542	EA		1-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 1" Pipe.....4.25		
			Note: 31/32" Center To Center Length, 9/32" Hole Diameter For Screw		
23 05 29 00-0543	EA		1-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 1" Pipe.....4.74		
			Note: 1-1/32" Center To Center Length, 13/32" Hole Diameter For Screw		
23 05 29 00-0544	EA		1-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 1" Pipe.....4.77		
			Note: 1-5/32" Center To Center Length, 17/32" Hole Diameter For Screw		
23 05 29 00-0545	EA		1-3/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 1-1/4" Pipe.....4.47		
			Note: 1-3/32" Center To Center Length, 9/32" Hole Diameter For Screw		



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0546	EA	1-3/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 1-1/4" Pipe Note: 1-7/32" Center To Center Length, 13/32" Hole Diameter For Screw	4.70	
23 05 29 00-0547	EA	1-3/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 1-1/4" Pipe Note: 1-11/16" Center To Center Length, 17/32" Hole Diameter For Screw	5.40	
23 05 29 00-0548	EA	1-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 1-1/2" Pipe Note: 1-5/16" Center To Center Length, 9/32" Hole Diameter For Screw	4.72	
23 05 29 00-0549	EA	1-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 1-1/2" Pipe Note: 1-9/16" Center To Center Length, 13/32" Hole Diameter For Screw	5.17	
23 05 29 00-0550	EA	1-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 1-1/2" Pipe Note: 1-13/16" Center To Center Length, 17/32" Hole Diameter For Screw	5.92	
23 05 29 00-0551	EA	2-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 2" Pipe Note: 1-7/16" Center To Center Length, 9/32" Hole Diameter For Screw	5.98	
23 05 29 00-0552	EA	2-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 2" Pipe Note: 1-9/16" Center To Center Length, 13/32" Hole Diameter For Screw	6.39	
23 05 29 00-0553	EA	2-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 2" Pipe Note: 1-11/16" Center To Center Length, 17/32" Hole Diameter For Screw	7.20	
23 05 29 00-0554	EA	2-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 2-1/2" Pipe Note: 1-11/16" Center To Center Length, 9/32" Hole Diameter For Screw	7.45	
23 05 29 00-0555	EA	2-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 2-1/2" Pipe Note: 1-13/16" Center To Center Length, 13/32" Hole Diameter For Screw	8.66	
23 05 29 00-0556	EA	2-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 2-1/2" Pipe Note: 1-15/16" Center To Center Length, 17/32" Hole Diameter For Screw	8.75	
23 05 29 00-0557	EA	3-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 3" Pipe Note: 1-15/16" Center To Center Length, 9/32" Hole Diameter For Screw	7.69	
23 05 29 00-0558	EA	3-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 3" Pipe Note: 2-1/16" Center To Center Length, 13/32" Hole Diameter For Screw	8.66	
23 05 29 00-0559	EA	3-1/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 3" Pipe Note: 2-3/16" Center To Center Length, 17/32" Hole Diameter For Screw	9.25	
23 05 29 00-0560	EA	3-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 3-1/2" Pipe Note: 2-3/16" Center To Center Length, 9/32" Hole Diameter For Screw	8.01	
23 05 29 00-0561	EA	3-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 3-1/2" Pipe Note: 2-5/16" Center To Center Length, 13/32" Hole Diameter For Screw	8.60	
23 05 29 00-0562	EA	3-5/8" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 3-1/2" Pipe Note: 2-7/16" Center To Center Length, 17/32" Hole Diameter For Screw	10.87	
23 05 29 00-0563	EA	4" Vinyl Coated Galvanized Cushion Tube Clamp, 1/2" Width For 4" Pipe Note: 2-7/16" Center To Center Length, 9/32" Hole Diameter For Screw	7.94	
23 05 29 00-0564	EA	4" Vinyl Coated Galvanized Cushion Tube Clamp, 3/4" Width For 4" Pipe Note: 2-9/16" Center To Center Length, 13/32" Hole Diameter For Screw	8.80	
23 05 29 00-0565	EA	4" Vinyl Coated Galvanized Cushion Tube Clamp, 1" Width For 4" Pipe Note: 2-11/16" Center To Center Length, 17/32" Hole Diameter For Screw	11.36	
23 05 29 00-0566		Rooftop Pipe Supports (23 05 29 00-0001) Note: Excludes pipe/conduit clamps and straps.		
23 05 29 00-0567		Rooftop Support Base (23 05 29 00-0566)		
23 05 29 00-0568	EA	4" x 6" x 4.8" Rooftop Support Base (Cooper B-Line Dura-Blok DBM)	41.97	8.36
23 05 29 00-0569	EA	4" x 6" x 9.6" Rooftop Support Base (Cooper B-Line Dura-Blok DBP)	58.73	11.14
23 05 29 00-0570		Rooftop Support Base With 14 Gauge Galvanized Channel (23 05 29 00-0566)		
23 05 29 00-0571	EA	5" x 6" x 4.8" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB5)	48.26	8.36
23 05 29 00-0572	EA	5" x 6" x 9.6" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10)	68.95	11.14
23 05 29 00-0573	EA	5" x 6" x 20.2" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB20)	130.63	13.93
23 05 29 00-0574	EA	5" x 6" x 30.8" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB30)	181.81	16.71
23 05 29 00-0575	EA	5" x 6" x 41.4" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB40)	253.59	19.50
23 05 29 00-0576	EA	5" x 6" x 52" Rooftop Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB48)	266.58	22.29
23 05 29 00-0577		Rooftop Support Base With 12 Gauge Galvanized Channel (23 05 29 00-0566)		
23 05 29 00-0578	EA	6-7/16" x 6" x 9.6" Rooftop Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB610)	85.65	11.14
23 05 29 00-0579	EA	6-7/16" x 6" x 20.2" Support Base With 14 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB620)	138.08	13.93
23 05 29 00-0580	EA	6-7/16" x 6" x 30.8" Rooftop Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB630)	184.79	16.71
23 05 29 00-0581	EA	6-7/16" x 6" x 41.4" Rooftop Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB640)	253.75	19.50
23 05 29 00-0582	EA	6-7/16" x 6" x 52" Rooftop Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB648)	288.08	16.71
23 05 29 00-0583		Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (23 05 29 00-0566)		
23 05 29 00-0584	EA	5-5/8" x 6" x 28" Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10-28)	144.42	16.71
23 05 29 00-0585	EA	5-5/8" x 6" x 36" Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10-36)	164.25	19.50
23 05 29 00-0586	EA	5-5/8" x 6" x 42" Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10-42)	169.76	22.29
23 05 29 00-0587	EA	5-5/8" x 6" x 50" Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10-50)	185.48	25.07
23 05 29 00-0588	EA	5-5/8" x 6" x 60" Rooftop Bridge Support Base With 12 Gauge Galvanized Channel (Cooper B-Line Dura-Blok DB10-60)	239.49	27.86
23 05 29 00-0589		Rooftop Pipe Support Base And Rod (23 05 29 00-0566)		
23 05 29 00-0590	EA	9.69" To 11.19" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-1/2CT)	105.42	11.14
23 05 29 00-0591	EA	9.84" To 11.34" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-3/4CT)	105.42	11.14

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0592	EA	9.95" To 11.45" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-1CT)	106.05	11.14
23 05 29 00-0593	EA	10.13" To 11.63" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-1-1/4CT)	112.26	13.93
23 05 29 00-0594	EA	10.28" To 11.78" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-1-1/2CT)	107.69	13.93
23 05 29 00-0595	EA	10.53" To 12.03" Height Rooftop Pipe Support Base And Rod (Cooper B-Line Dura-Blok DBM-2CT)	113.55	13.93
23 05 29 00-0596		Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (23 05 29 00-0596)		
23 05 29 00-0597	EA	7.09" x 6" x 9.6" Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (Cooper B-Line Dura-Blok DBR2-3 1/2)	135.34	11.14
23 05 29 00-0598	EA	7.09" x 6" x 9.6" Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (Cooper B-Line Dura-Blok DBR4-6)	151.75	11.14
23 05 29 00-0599	EA	8.34" x 6" x 20.2" Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (Cooper B-Line Dura-Blok DBR8-10)	199.26	13.93
23 05 29 00-0600	EA	9.38" x 6" x 20.2" Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (Cooper B-Line Dura-Blok DBR12-14)	266.32	13.93
23 05 29 00-0601	EA	9.78" x 6" x 20.2" Rooftop Support Base With 14 Gauge Galvanized Channel And Fixed Height Roller Assembly (Cooper B-Line Dura-Blok DBR16-20)	365.92	13.93
23 05 29 00-0602		Rooftop Support Base And Adjustable Height Roller Assembly (23 05 29 00-0566)		
Note: Includes base, two zinc all threaded rod risers and pipe roller.				
23 05 29 00-0603	EA	Up To 12" Height, 6" x 9.6" Rooftop Support Base And Adjustable Height Roller Assembly (Cooper B-Line Dura-Blok DBR10-12)	167.15	16.71
23 05 29 00-0604		Rooftop Support Base And Adjustable Height Channel Assembly (23 05 29 00-0566)		
Note: Includes base, two zinc all threaded rod and 14 gauge slotted channel.				
23 05 29 00-0605	EA	Up To 8" Height, 6" x 9.6" Rooftop Support Base And Adjustable Height Channel Assembly (Cooper B-Line Dura-Blok DBE10-8)	107.99	13.93
23 05 29 00-0606	EA	Up To 12" Height, 6" x 9.6" Rooftop Support Base And Adjustable Height Channel Assembly (Cooper B-Line Dura-Blok DBE10-12)	148.40	16.71
23 05 29 00-0607	EA	Up To 16" Height, 6" x 9.6" Rooftop Support Base And Adjustable Height Channel Assembly (Cooper B-Line Dura-Blok DBE10-16)	165.02	19.50
23 05 29 00-0608		Rooftop Support Bases With Channel Support And Risers Assembly (23 05 29 00-0566)		
Note: Includes two support bases, two 12 gauge galvanized channel risers and one 12 gauge galvanized channel support. Dimensions are "overall" (height x width x length).				
23 05 29 00-0609	EA	23" x 25-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2318DS)	411.80	22.29
23 05 29 00-0610	EA	29" x 25-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2918DS)	416.52	22.29
23 05 29 00-0611	EA	41" x 25-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB4118DS)	433.08	22.29
23 05 29 00-0612	EA	53" x 25-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB5318DS)	471.09	22.29
23 05 29 00-0613	EA	23" x 31-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2324DS)	403.38	22.29
23 05 29 00-0614	EA	29" x 31-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2924DS)	419.22	22.29
23 05 29 00-0615	EA	41" x 31-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB4124DS)	435.78	22.29
23 05 29 00-0616	EA	53" x 31-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB5324DS)	473.77	22.29
23 05 29 00-0617	EA	23" x 43-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2336DS)	422.21	22.29
23 05 29 00-0618	EA	29" x 43-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2936DS)	427.74	22.29
23 05 29 00-0619	EA	41" x 43-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB4136DS)	443.97	22.29
23 05 29 00-0620	EA	53" x 43-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB5336DS)	482.14	22.29
23 05 29 00-0621	EA	23" x 55-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2348DS)	441.45	22.29
23 05 29 00-0622	EA	29" x 55-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB2948DS)	446.49	22.29
23 05 29 00-0623	EA	41" x 55-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB4148DS)	462.73	22.29
23 05 29 00-0624	EA	53" x 55-5/8" x 20.2" Rooftop Support Bases With Channel Support And Risers Assembly (Cooper B-Line Dura-Blok DB5348DS)	500.89	22.29
23 05 29 00-0625		Threaded Rod, Accessories And Attachments (23 05 29)		
23 05 29 00-0626		Threaded Rod And Rod Accessories (23 05 29 00-0625)		
23 05 29 00-0627		Threaded Rod (23 05 29 00-0626)		
Note: Fully threaded.				
23 05 29 00-0628	LF	3/8" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	5.10	0.70
For Work In Restricted Working Space, Add			0.42	
For Galvanized, Add			1.48	
For Zinc Plated, Add			1.06	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0629	LF	1/2" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	.....	7.38	0.75
		For Work In Restricted Working Space, Add	.....	0.44	
		For Galvanized, Add	.....	2.36	
		For Zinc Plated, Add	.....	1.68	
23 05 29 00-0630	LF	5/8" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	.....	10.68	0.77
		For Work In Restricted Working Space, Add	.....	0.46	
		For Galvanized, Add	.....	3.66	
		For Zinc Plated, Add	.....	2.60	
23 05 29 00-0631	LF	3/4" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	.....	18.18	0.80
		For Work In Restricted Working Space, Add	.....	0.47	
		For Galvanized, Add	.....	6.64	
		For Zinc Plated, Add	.....	4.73	
23 05 29 00-0632	LF	7/8" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	.....	19.88	0.82
		For Work In Restricted Working Space, Add	.....	0.49	
		For Galvanized, Add	.....	7.30	
		For Zinc Plated, Add	.....	5.20	
23 05 29 00-0633	LF	1" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	.....	27.46	0.93
		For Work In Restricted Working Space, Add	.....	0.56	
		For Galvanized, Add	.....	10.24	
		For Zinc Plated, Add	.....	7.30	
23 05 29 00-0634	LF	1-1/8" Diameter, Plain Finish Steel, Low Carbon Threaded Rod	.....	34.37	1.03
		For Work In Restricted Working Space, Add	.....	0.62	
		For Galvanized, Add	.....	12.92	
		For Zinc Plated, Add	.....	9.21	
23 05 29 00-0635 Rod Couplings (23 05 29 00-0626)					
23 05 29 00-0636	EA	3/8" Diameter, Threaded Rod Coupling Nut	.....	8.66	
		For Work In Restricted Working Space, Add	.....	2.05	
23 05 29 00-0637	EA	1/2" Diameter, Threaded Rod Coupling Nut	.....	9.87	
		For Work In Restricted Working Space, Add	.....	2.28	
23 05 29 00-0638	EA	5/8" Diameter, Threaded Rod Coupling Nut	.....	12.59	
		For Work In Restricted Working Space, Add	.....	2.57	
23 05 29 00-0639	EA	3/4" Diameter, Threaded Rod Coupling Nut	.....	15.64	
		For Work In Restricted Working Space, Add	.....	2.80	
23 05 29 00-0640	EA	7/8" Diameter, Threaded Rod Coupling Nut	.....	23.82	
		For Work In Restricted Working Space, Add	.....	3.08	
23 05 29 00-0641	EA	1" Diameter, Threaded Rod Coupling Nut	.....	28.28	
		For Work In Restricted Working Space, Add	.....	3.62	
23 05 29 00-0642	EA	1-1/8" Diameter, Threaded Rod Coupling Nut	.....	56.59	
		For Work In Restricted Working Space, Add	.....	4.10	
23 05 29 00-0643 Flat Washers (23 05 29 00-0626)					
		Note: Zinc plated.			
23 05 29 00-0644	EA	3/8" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	.....	0.62	0.22
		For Work In Restricted Working Space, Add	.....	0.14	
		For Galvanized, Add	.....	0.04	
23 05 29 00-0645	EA	1/2" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	.....	0.86	0.22
		For Work In Restricted Working Space, Add	.....	0.16	
		For Galvanized, Add	.....	0.09	
23 05 29 00-0646	EA	5/8" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	.....	1.27	0.33
		For Work In Restricted Working Space, Add	.....	0.18	
		For Galvanized, Add	.....	0.17	
23 05 29 00-0647	EA	3/4" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	.....	1.75	0.33
		For Work In Restricted Working Space, Add	.....	0.24	
		For Galvanized, Add	.....	0.24	
23 05 29 00-0648	EA	7/8" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	.....	2.06	0.44
		For Work In Restricted Working Space, Add	.....	0.28	
		For Galvanized, Add	.....	0.28	
23 05 29 00-0649	EA	1" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	.....	2.42	0.44
		For Work In Restricted Working Space, Add	.....	0.31	
		For Galvanized, Add	.....	0.35	
23 05 29 00-0650	EA	1-1/8" Inside Diameter, Zinc Plated Steel, Low Carbon Flat Washer	.....	2.73	0.55
		For Work In Restricted Working Space, Add	.....	0.35	
		For Galvanized, Add	.....	0.39	
23 05 29 00-0651 Hex Nuts (23 05 29 00-0626)					
		Note: Grade 2 and zinc plated.			
23 05 29 00-0652	EA	3/8" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut	.....	0.76	0.28
		For Work In Restricted Working Space, Add	.....	0.19	
		For Galvanized, Add	.....	0.03	
23 05 29 00-0653	EA	1/2" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut	.....	0.99	0.28
		For Work In Restricted Working Space, Add	.....	0.21	
		For Galvanized, Add	.....	0.07	
23 05 29 00-0654	EA	5/8" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut	.....	1.40	0.28
		For Work In Restricted Working Space, Add	.....	0.22	
		For Galvanized, Add	.....	0.17	
23 05 29 00-0655	EA	3/4" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut	.....	1.67	0.55
		For Work In Restricted Working Space, Add	.....	0.23	
		For Galvanized, Add	.....	0.22	
23 05 29 00-0656	EA	7/8" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut	.....	2.50	0.55
		For Work In Restricted Working Space, Add	.....	0.25	
		For Galvanized, Add	.....	0.42	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0657 EA 1" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut..... <i>For Work In Restricted Working Space, Add</i> <i>For Galvanized, Add</i>	3.20 0.28 0.57	0.55
23 05 29 00-0658 EA 1-1/8" Diameter, Zinc Plated Steel, Low Carbon/Grade 2 Hex Nut..... <i>For Work In Restricted Working Space, Add</i> <i>For Galvanized, Add</i>	5.33 0.31 1.08	0.55
23 05 29 00-0659 Turnbuckle (Cooper B-Line B3202) (23 05 29 00-0626) Note: Type 13.		
23 05 29 00-0660 EA 3/8" Turnbuckle (Cooper B-Line B3202)..... <i>For Work In Restricted Working Space, Add</i>	26.93 3.34	5.57
23 05 29 00-0661 EA 1/2" Turnbuckle (Cooper B-Line B3202)..... <i>For Work In Restricted Working Space, Add</i>	32.01 3.71	6.12
23 05 29 00-0662 EA 5/8" Turnbuckle (Cooper B-Line B3202)..... <i>For Work In Restricted Working Space, Add</i>	34.45 4.18	6.69
23 05 29 00-0663 EA 3/4" Turnbuckle (Cooper B-Line B3202)..... <i>For Work In Restricted Working Space, Add</i>	43.41 4.78	7.80
23 05 29 00-0664 EA 7/8" Turnbuckle (Cooper B-Line B3202)..... <i>For Work In Restricted Working Space, Add</i>	56.26 5.57	8.36
23 05 29 00-0665 EA 1" Turnbuckle (Cooper B-Line B3202)..... <i>For Work In Restricted Working Space, Add</i>	69.86 6.69	8.92
23 05 29 00-0666 EA 1-1/8" Turnbuckle (Cooper B-Line B3202)..... <i>For Work In Restricted Working Space, Add</i>	97.00 8.36	10.04
23 05 29 00-0667 Swivel Turnbuckle (Cooper B-Line B3224) (23 05 29 00-0626) Note: Type 15.		
23 05 29 00-0668 EA 3/8" Swivel Turnbuckle (Cooper B-Line B3224)..... <i>For Work In Restricted Working Space, Add</i>	16.95 3.34	5.57
23 05 29 00-0669 EA 1/2" Swivel Turnbuckle (Cooper B-Line B3224)..... <i>For Work In Restricted Working Space, Add</i>	19.63 3.71	6.24
23 05 29 00-0670 EA 5/8" Swivel Turnbuckle (Cooper B-Line B3224)..... <i>For Work In Restricted Working Space, Add</i>	26.10 4.18	6.91
23 05 29 00-0671 EA 3/4" Swivel Turnbuckle (Cooper B-Line B3224)..... <i>For Work In Restricted Working Space, Add</i>	31.56 4.78	7.91
23 05 29 00-0672 Forged Steel Clevis (Cooper B-Line B3201) (23 05 29 00-0626) Note: Type 14.		
23 05 29 00-0673 EA 3-9/16" Forged Steel Clevis With Pin, 3/8" To 5/8" Rod Size (Cooper B-Line B3201)..... <i>For Work In Restricted Working Space, Add</i>	90.20 6.16	10.26
23 05 29 00-0674 EA 4" Forged Steel Clevis With Pin, 3/4" To 7/8" Rod Size (Cooper B-Line B3201)..... <i>For Work In Restricted Working Space, Add</i>	133.31 6.48	10.77
23 05 29 00-0675 EA 5-1/16" Forged Steel Clevis With Pin, 1" Rod Size (Cooper B-Line B3201)..... <i>For Work In Restricted Working Space, Add</i>	144.19 6.84	11.29
23 05 29 00-0676 EA 5-1/16" Forged Steel Clevis With Pin, 1-1/8" Rod Size (Cooper B-Line B3201)..... <i>For Work In Restricted Working Space, Add</i>	150.14 7.24	12.31
23 05 29 00-0677 EA 5-1/16" Forged Steel Clevis With Pin, 1-1/4" Rod Size (Cooper B-Line B3201)..... <i>For Work In Restricted Working Space, Add</i>	157.97 8.21	13.86
23 05 29 00-0678 EA 6" Forged Steel Clevis With Pin, 1-1/2" Rod Size (Cooper B-Line B3201)..... <i>For Work In Restricted Working Space, Add</i>	263.51 10.77	17.96
23 05 29 00-0679 EA 5-15/16" Forged Steel Clevis With Pin, 1-3/4" Rod Size (Cooper B-Line B3201)..... <i>For Work In Restricted Working Space, Add</i>	285.94 12.31	20.52
23 05 29 00-0680 EA 7" Forged Steel Clevis With Pin, 2" Rod Size (Cooper B-Line B3201)..... <i>For Work In Restricted Working Space, Add</i>	337.02 15.39	25.66
23 05 29 00-0681 Welded Eye Rod (Cooper B-Line B3211) (23 05 29 00-0626)		
23 05 29 00-0682 EA 3/8" Diameter x 8" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	26.76 3.62	6.01
23 05 29 00-0683 EA 3/8" Diameter x 10" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	27.62 3.69	6.12
23 05 29 00-0684 EA 3/8" Diameter x 12" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	28.48 3.76	6.24
23 05 29 00-0685 EA 3/8" Diameter x 14" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	28.71 3.83	6.36
23 05 29 00-0686 EA 3/8" Diameter x 18" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	30.44 3.97	6.58
23 05 29 00-0687 EA 3/8" Diameter x 24" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	32.44 4.18	7.02
23 05 29 00-0688 EA 3/8" Diameter x 30" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	33.76 4.39	7.35
23 05 29 00-0689 EA 3/8" Diameter x 36" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	36.38 4.60	7.68
23 05 29 00-0690 EA 3/8" Diameter x 42" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	38.34 4.81	8.03
23 05 29 00-0691 EA 3/8" Diameter x 48" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	40.32 5.01	8.36
23 05 29 00-0692 EA 1/2" Diameter x 8" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	35.68 4.01	6.69
23 05 29 00-0693 EA 1/2" Diameter x 10" Length Shank, Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	36.56 4.08	6.80



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0694	EA	1/2" Diameter x 12" Length Shank, Welded Eye Rod	37.46	6.91
		For Work In Restricted Working Space, Add	4.16	
23 05 29 00-0695	EA	1/2" Diameter x 14" Length Shank, Welded Eye Rod	38.34	7.02
		For Work In Restricted Working Space, Add	4.23	
23 05 29 00-0696	EA	1/2" Diameter x 18" Length Shank, Welded Eye Rod	40.10	7.24
		For Work In Restricted Working Space, Add	4.38	
23 05 29 00-0697	EA	1/2" Diameter x 24" Length Shank, Welded Eye Rod	43.40	7.69
		For Work In Restricted Working Space, Add	4.60	
23 05 29 00-0698	EA	1/2" Diameter x 30" Length Shank, Welded Eye Rod	46.06	8.03
		For Work In Restricted Working Space, Add	4.62	
23 05 29 00-0699	EA	1/2" Diameter x 36" Length Shank, Welded Eye Rod	49.35	8.36
		For Work In Restricted Working Space, Add	5.05	
23 05 29 00-0700	EA	1/2" Diameter x 42" Length Shank, Welded Eye Rod	51.98	8.81
		For Work In Restricted Working Space, Add	5.27	
23 05 29 00-0701	EA	1/2" Diameter x 48" Length Shank, Welded Eye Rod	54.65	9.14
		For Work In Restricted Working Space, Add	5.49	
23 05 29 00-0702	EA	5/8" Diameter x 8" Length Shank, Welded Eye Rod	48.12	7.47
		For Work In Restricted Working Space, Add	4.49	
23 05 29 00-0703	EA	5/8" Diameter x 10" Length Shank, Welded Eye Rod	49.63	7.58
		For Work In Restricted Working Space, Add	4.56	
23 05 29 00-0704	EA	5/8" Diameter x 12" Length Shank, Welded Eye Rod	51.19	7.69
		For Work In Restricted Working Space, Add	4.64	
23 05 29 00-0705	EA	5/8" Diameter x 14" Length Shank, Welded Eye Rod	52.08	7.91
		For Work In Restricted Working Space, Add	4.72	
23 05 29 00-0706	EA	5/8" Diameter x 18" Length Shank, Welded Eye Rod	54.50	8.14
		For Work In Restricted Working Space, Add	4.87	
23 05 29 00-0707	EA	5/8" Diameter x 24" Length Shank, Welded Eye Rod	58.46	8.47
		For Work In Restricted Working Space, Add	5.10	
23 05 29 00-0708	EA	5/8" Diameter x 30" Length Shank, Welded Eye Rod	62.40	8.92
		For Work In Restricted Working Space, Add	5.33	
23 05 29 00-0709	EA	5/8" Diameter x 36" Length Shank, Welded Eye Rod	65.73	9.25
		For Work In Restricted Working Space, Add	5.57	
23 05 29 00-0710	EA	5/8" Diameter x 42" Length Shank, Welded Eye Rod	69.69	9.69
		For Work In Restricted Working Space, Add	5.80	
23 05 29 00-0711	EA	5/8" Diameter x 48" Length Shank, Welded Eye Rod	73.63	10.04
		For Work In Restricted Working Space, Add	6.02	
23 05 29 00-0712	EA	3/4" Diameter x 8" Length Shank, Welded Eye Rod	59.08	8.47
		For Work In Restricted Working Space, Add	5.10	
23 05 29 00-0713	EA	3/4" Diameter x 10" Length Shank, Welded Eye Rod	61.26	8.58
		For Work In Restricted Working Space, Add	5.18	
23 05 29 00-0714	EA	3/4" Diameter x 12" Length Shank, Welded Eye Rod	62.79	8.81
		For Work In Restricted Working Space, Add	5.26	
23 05 29 00-0715	EA	3/4" Diameter x 14" Length Shank, Welded Eye Rod	64.97	8.92
		For Work In Restricted Working Space, Add	5.34	
23 05 29 00-0716	EA	3/4" Diameter x 18" Length Shank, Welded Eye Rod	68.69	9.14
		For Work In Restricted Working Space, Add	5.50	
23 05 29 00-0717	EA	3/4" Diameter x 24" Length Shank, Welded Eye Rod	73.92	9.58
		For Work In Restricted Working Space, Add	5.73	
23 05 29 00-0718	EA	3/4" Diameter x 30" Length Shank, Welded Eye Rod	79.18	9.92
		For Work In Restricted Working Space, Add	5.97	
23 05 29 00-0719	EA	3/4" Diameter x 36" Length Shank, Welded Eye Rod	85.09	10.37
		For Work In Restricted Working Space, Add	6.21	
23 05 29 00-0720	EA	3/4" Diameter x 42" Length Shank, Welded Eye Rod	90.96	10.70
		For Work In Restricted Working Space, Add	6.44	
23 05 29 00-0721	EA	3/4" Diameter x 48" Length Shank, Welded Eye Rod	96.22	11.14
		For Work In Restricted Working Space, Add	6.68	
23 05 29 00-0722	EA	7/8" Diameter x 8" Length Shank, Welded Eye Rod	70.72	9.81
		For Work In Restricted Working Space, Add	5.92	
23 05 29 00-0723	EA	7/8" Diameter x 10" Length Shank, Welded Eye Rod	73.54	10.04
		For Work In Restricted Working Space, Add	6.00	
23 05 29 00-0724	EA	7/8" Diameter x 12" Length Shank, Welded Eye Rod	75.73	10.15
		For Work In Restricted Working Space, Add	6.08	
23 05 29 00-0725	EA	7/8" Diameter x 14" Length Shank, Welded Eye Rod	77.91	10.26
		For Work In Restricted Working Space, Add	6.16	
23 05 29 00-0726	EA	7/8" Diameter x 18" Length Shank, Welded Eye Rod	82.31	10.59
		For Work In Restricted Working Space, Add	6.33	
23 05 29 00-0727	EA	7/8" Diameter x 24" Length Shank, Welded Eye Rod	89.49	10.92
		For Work In Restricted Working Space, Add	6.57	
23 05 29 00-0728	EA	7/8" Diameter x 30" Length Shank, Welded Eye Rod	96.05	11.37
		For Work In Restricted Working Space, Add	6.82	
23 05 29 00-0729	EA	7/8" Diameter x 36" Length Shank, Welded Eye Rod	103.25	11.82
		For Work In Restricted Working Space, Add	7.07	
23 05 29 00-0730	EA	7/8" Diameter x 42" Length Shank, Welded Eye Rod	109.82	12.15
		For Work In Restricted Working Space, Add	7.32	
23 05 29 00-0731	EA	7/8" Diameter x 48" Length Shank, Welded Eye Rod	116.37	12.59
		For Work In Restricted Working Space, Add	7.56	
23 05 29 00-0732	EA	1" Diameter x 8" Length Shank, Welded Eye Rod	88.56	11.82
		For Work In Restricted Working Space, Add	7.06	
23 05 29 00-0733	EA	1" Diameter x 10" Length Shank, Welded Eye Rod	91.42	11.93
		For Work In Restricted Working Space, Add	7.15	
23 05 29 00-0734	EA	1" Diameter x 12" Length Shank, Welded Eye Rod	94.28	12.04
		For Work In Restricted Working Space, Add	7.25	
23 05 29 00-0735	EA	1" Diameter x 14" Length Shank, Welded Eye Rod	97.14	12.26
		For Work In Restricted Working Space, Add	7.34	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0736	EA	1" Diameter x 18" Length Shank, Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	102.84 7.52	12.59
23 05 29 00-0737	EA	1" Diameter x 24" Length Shank, Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	111.44 7.80	13.04
23 05 29 00-0738	EA	1" Diameter x 30" Length Shank, Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	120.03 8.08	13.49
23 05 29 00-0739	EA	1" Diameter x 36" Length Shank, Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	129.21 8.36	13.93
23 05 29 00-0740	EA	1" Diameter x 42" Length Shank, Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	137.79 8.64	14.38
23 05 29 00-0741	EA	1" Diameter x 48" Length Shank, Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	146.38 8.92	14.82
23 05 29 00-0742 Welded Linked Eye Rod (Cooper B-Line B3211X) (23 05 29 00-0626)				
23 05 29 00-0743	EA	3/8" Diameter x 16" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	55.84 4.91	8.14
23 05 29 00-0744	EA	3/8" Diameter x 20" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	57.34 5.04	8.36
23 05 29 00-0745	EA	3/8" Diameter x 24" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	58.86 5.18	8.69
23 05 29 00-0746	EA	3/8" Diameter x 30" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	59.56 5.39	9.02
23 05 29 00-0747	EA	3/8" Diameter x 36" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	62.35 5.60	9.36
23 05 29 00-0748	EA	3/8" Diameter x 48" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	65.91 6.02	10.03
23 05 29 00-0749	EA	3/8" Diameter x 60" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	68.34 6.44	10.70
23 05 29 00-0750	EA	3/8" Diameter x 72" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	72.94 6.85	11.47
23 05 29 00-0751	EA	1/2" Diameter x 16" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	72.13 5.42	9.03
23 05 29 00-0752	EA	1/2" Diameter x 20" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	73.67 5.57	9.25
23 05 29 00-0753	EA	1/2" Diameter x 24" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	75.27 5.72	9.47
23 05 29 00-0754	EA	1/2" Diameter x 30" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	77.07 5.94	9.92
23 05 29 00-0755	EA	1/2" Diameter x 36" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	79.90 6.16	10.26
23 05 29 00-0756	EA	1/2" Diameter x 48" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	85.65 6.61	11.03
23 05 29 00-0757	EA	1/2" Diameter x 60" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	90.33 7.05	11.71
23 05 29 00-0758	EA	1/2" Diameter x 72" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	96.07 7.49	12.48
23 05 29 00-0759	EA	5/8" Diameter x 16" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	96.50 6.05	10.04
23 05 29 00-0760	EA	5/8" Diameter x 20" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	99.11 6.20	10.37
23 05 29 00-0761	EA	5/8" Diameter x 24" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	101.77 6.36	10.59
23 05 29 00-0762	EA	5/8" Diameter x 30" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	103.61 6.59	11.03
23 05 29 00-0763	EA	5/8" Diameter x 36" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	107.57 6.82	11.37
23 05 29 00-0764	EA	5/8" Diameter x 48" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	114.41 7.28	12.15
23 05 29 00-0765	EA	5/8" Diameter x 60" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	121.25 7.74	12.93
23 05 29 00-0766	EA	5/8" Diameter x 72" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	127.05 8.21	13.71
23 05 29 00-0767	EA	3/4" Diameter x 16" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	121.99 6.85	11.37
23 05 29 00-0768	EA	3/4" Diameter x 20" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	125.75 7.01	11.71
23 05 29 00-0769	EA	3/4" Diameter x 24" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	128.38 7.17	11.93
23 05 29 00-0770	EA	3/4" Diameter x 30" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	132.35 7.40	12.37
23 05 29 00-0771	EA	3/4" Diameter x 36" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	138.46 7.64	12.71
23 05 29 00-0772	EA	3/4" Diameter x 48" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	147.45 8.12	13.49
23 05 29 00-0773	EA	3/4" Diameter x 60" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	156.48 8.59	14.27
23 05 29 00-0774	EA	3/4" Diameter x 72" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	166.58 9.07	15.16
23 05 29 00-0775	EA	7/8" Diameter x 16" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	146.52 7.92	13.15
23 05 29 00-0776	EA	7/8" Diameter x 20" Length Shank, Linked Welded Eye Rod <i>For Work In Restricted Working Space, Add</i>	151.33 8.09	13.49



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0777	EA	7/8" Diameter x 24" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	155.07 8.25	13.71
23 05 29 00-0778	EA	7/8" Diameter x 30" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	159.07 8.50	14.16
23 05 29 00-0779	EA	7/8" Diameter x 36" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	166.30 8.75	14.60
23 05 29 00-0780	EA	7/8" Diameter x 48" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	178.56 9.24	15.39
23 05 29 00-0781	EA	7/8" Diameter x 60" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	189.76 9.73	16.27
23 05 29 00-0782	EA	7/8" Diameter x 72" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	202.03 10.23	17.06
23 05 29 00-0783	EA	1" Diameter x 16" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	186.62 9.44	15.72
23 05 29 00-0784	EA	1" Diameter x 20" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	191.50 9.62	16.05
23 05 29 00-0785	EA	1" Diameter x 24" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	196.37 9.81	16.38
23 05 29 00-0786	EA	1" Diameter x 30" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	201.56 10.09	16.83
23 05 29 00-0787	EA	1" Diameter x 36" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	210.94 10.37	17.28
23 05 29 00-0788	EA	1" Diameter x 48" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	225.57 10.92	18.17
23 05 29 00-0789	EA	1" Diameter x 60" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	240.21 11.48	19.17
23 05 29 00-0790	EA	1" Diameter x 72" Length Shank, Linked Welded Eye Rod..... <i>For Work In Restricted Working Space, Add</i>	255.81 12.04	20.06
23 05 29 00-0791		Attachments (23 05 29 00-0625)		
23 05 29 00-0792		Welded Beam Attachments (B-Line B-3083) (23 05 29 00-0791) Note: Type 22.		
23 05 29 00-0793	EA	3/8" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	48.56 6.25	10.41
23 05 29 00-0794	EA	1/2" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	51.84 6.58	10.94
23 05 29 00-0795	EA	5/8" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	55.22 6.95	11.56
23 05 29 00-0796	EA	3/4" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	70.95 7.35	12.30
23 05 29 00-0797	EA	7/8" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	85.47 7.81	13.02
23 05 29 00-0798	EA	1" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	120.50 8.93	14.89
23 05 29 00-0799	EA	1-1/8" Rod Size, Welded Beam Attachment With Pin (B-Line B-3083)..... <i>For Work In Restricted Working Space, Add</i>	171.74 9.38	15.62
23 05 29 00-0800		C-Clamp Style Beam Clamps (B-Line B-3034) (23 05 29 00-0791) Note: Type 23. Top or bottom flange mount.		
23 05 29 00-0801	EA	3/8" Rod Size, C-Clamp Style Beam Clamp (B-Line B-3034)..... <i>For Work In Restricted Working Space, Add</i>	17.32 4.18	5.68
23 05 29 00-0802	EA	1/2" Rod Size, C-Clamp Style Beam Clamp (B-Line B-3034)..... <i>For Work In Restricted Working Space, Add</i>	20.73 4.46	7.24
23 05 29 00-0803	EA	5/8" Rod Size, C-Clamp Style Beam Clamp (B-Line B-3034)..... <i>For Work In Restricted Working Space, Add</i>	23.56 4.78	7.80
23 05 29 00-0804	EA	3/4" Rod Size, C-Clamp Style Beam Clamp (B-Line B-3034)..... <i>For Work In Restricted Working Space, Add</i>	30.40 5.15	8.36
23 05 29 00-0805	EA	7/8" Rod Size, C-Clamp Style Beam Clamp (B-Line B-3034)..... <i>For Work In Restricted Working Space, Add</i>	44.32 5.57	8.92
23 05 29 00-0806		Bottom Mount I-Beam Clamps (B-Line B-3055) (23 05 29 00-0791) Note: Type 21. For attaching threaded rod centered under beam flanges.		
23 05 29 00-0807	EA	3/8" Rod Size, Up To 6" Flange Width, Bottom Mount I-Beam Clamp (B-Line B-3055)..... <i>For Work In Restricted Working Space, Add</i>	48.35 5.57	7.80
23 05 29 00-0808	EA	1/2" Rod Size, Up To 6" Flange Width, Bottom Mount I-Beam Clamp (B-Line B-3055)..... <i>For Work In Restricted Working Space, Add</i>	71.29 6.08	10.04
23 05 29 00-0809	EA	5/8" Rod Size, Up To 6" Flange Width, Bottom Mount I-Beam Clamp (B-Line B-3055)..... <i>For Work In Restricted Working Space, Add</i>	102.09 6.69	11.14
23 05 29 00-0810	EA	3/4" Rod Size, Up To 6" Flange Width, Bottom Mount I-Beam Clamp (B-Line B-3055)..... <i>For Work In Restricted Working Space, Add</i>	122.25 7.43	12.26
23 05 29 00-0811	EA	1" Rod Size, Up To 6" Flange Width, Bottom Mount I-Beam Clamp (B-Line B-3055)..... <i>For Work In Restricted Working Space, Add</i>	297.03 8.36	13.38
23 05 29 00-0812		Steel U-Bolts (B-Line B-3188) (23 05 29 00-0791) Note: Type 24. Includes plate and nuts.		
23 05 29 00-0813	EA	1/2" Pipe Size, Steel U-Bolt (B-Line B-3188)..... <i>For Work In Restricted Working Space, Add</i>	14.12 3.34	2.79
23 05 29 00-0814	EA	3/4" Pipe Size, Steel U-Bolt (B-Line B-3188)..... <i>For Work In Restricted Working Space, Add</i>	15.33 3.52	3.34

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0815	EA	1" Pipe Size, Steel U-Bolt (B-Line B-3188).....	16.51	3.34
		<i>For Work In Restricted Working Space, Add</i>	3.71	
23 05 29 00-0816	EA	1-1/4" Pipe Size, Steel U-Bolt (B-Line B-3188).....	18.80	3.34
		<i>For Work In Restricted Working Space, Add</i>	3.93	
23 05 29 00-0817	EA	1-1/2" Pipe Size, Steel U-Bolt (B-Line B-3188).....	19.41	3.90
		<i>For Work In Restricted Working Space, Add</i>	4.18	
23 05 29 00-0818	EA	2" Pipe Size, Steel U-Bolt (B-Line B-3188).....	20.78	3.90
		<i>For Work In Restricted Working Space, Add</i>	4.46	
23 05 29 00-0819	EA	2-1/2" Pipe Size, Steel U-Bolt (B-Line B-3188).....	30.09	3.90
		<i>For Work In Restricted Working Space, Add</i>	4.77	
23 05 29 00-0820	EA	3" Pipe Size, Steel U-Bolt (B-Line B-3188).....	33.19	4.46
		<i>For Work In Restricted Working Space, Add</i>	5.14	
23 05 29 00-0821	EA	4" Pipe Size, Steel U-Bolt (B-Line B-3188).....	40.17	5.02
		<i>For Work In Restricted Working Space, Add</i>	5.57	
23 05 29 00-0822		Copper Standoff Brackets With Flange (23 05 29 00-0791)		
		Note: Installed in wood, concrete, concrete block or steel.		
23 05 29 00-0823	EA	Clamp Size 1/2", Copper Standoff Brackets With Flange.....	33.66	15.94
		<i>For Work In Restricted Working Space, Add</i>	9.56	
23 05 29 00-0824	EA	Clamp Size 3/4", Copper Standoff Brackets With Flange.....	33.77	15.94
		<i>For Work In Restricted Working Space, Add</i>	9.56	
23 05 29 00-0825	EA	Clamp Size 1", Copper Standoff Brackets With Flange.....	33.88	15.94
		<i>For Work In Restricted Working Space, Add</i>	9.56	
23 05 29 00-0826	EA	Clamp Size 1 1/4", Copper Standoff Brackets With Flange.....	36.02	16.95
		<i>For Work In Restricted Working Space, Add</i>	10.13	
23 05 29 00-0827	EA	Clamp Size 1 1/2", Copper Standoff Brackets With Flange.....	36.24	16.95
		<i>For Work In Restricted Working Space, Add</i>	10.13	
23 05 29 00-0828		Malleable Iron Eye Sockets (B-Line B-3222) (23 05 29 00-0791)		
		Note: Type 16.		
23 05 29 00-0829	EA	3/8" Rod Size, Malleable Iron Eye Socket.....	10.89	1.67
		<i>For Work In Restricted Working Space, Add</i>	1.01	
23 05 29 00-0830	EA	1/2" Rod Size, Malleable Iron Eye Socket.....	13.88	2.23
		<i>For Work In Restricted Working Space, Add</i>	1.34	
23 05 29 00-0831	EA	5/8" Rod Size, Malleable Iron Eye Socket.....	23.84	2.23
		<i>For Work In Restricted Working Space, Add</i>	1.35	
23 05 29 00-0832	EA	3/4" Rod Size, Malleable Iron Eye Socket.....	33.61	2.23
		<i>For Work In Restricted Working Space, Add</i>	1.34	
23 05 29 00-0833	EA	7/8" Rod Size, Malleable Iron Eye Socket.....	36.29	2.79
		<i>For Work In Restricted Working Space, Add</i>	1.67	
23 05 29 00-0834		Steel Weldless Eye Nuts (B-Line B-3200) (23 05 29 00-0791)		
		Note: Type 17.		
23 05 29 00-0835	EA	3/8" Rod Size, Steel Weldless Eye Nut.....	35.45	1.67
		<i>For Work In Restricted Working Space, Add</i>	1.01	
23 05 29 00-0836	EA	1/2" Rod Size, Steel Weldless Eye Nut.....	36.53	2.23
		<i>For Work In Restricted Working Space, Add</i>	1.34	
23 05 29 00-0837	EA	5/8" Rod Size, Steel Weldless Eye Nut.....	36.57	2.23
		<i>For Work In Restricted Working Space, Add</i>	1.35	
23 05 29 00-0838	EA	3/4" Rod Size, Steel Weldless Eye Nut.....	36.53	2.23
		<i>For Work In Restricted Working Space, Add</i>	1.34	
23 05 29 00-0839	EA	7/8" Rod Size, Steel Weldless Eye Nut.....	71.20	2.45
		<i>For Work In Restricted Working Space, Add</i>	1.51	
23 05 29 00-0840	EA	1" Rod Size, Steel Weldless Eye Nut.....	71.75	2.79
		<i>For Work In Restricted Working Space, Add</i>	1.67	
23 05 29 00-0841		Top Mount I-Beam Clamps (B-Line B-3042) (23 05 29 00-0791)		
		Note: For attaching threaded rod to either side of an I-beam.		
23 05 29 00-0842	EA	3/8" Rod Size, Up To 6" Flange Width, Top Mount I-Beam Clamp.....	24.03	5.20
		<i>For Work In Restricted Working Space, Add</i>	3.12	
23 05 29 00-0843	EA	1/2" Rod Size, Up To 6" Flange Width, Top Mount I-Beam Clamp.....	28.91	5.73
		<i>For Work In Restricted Working Space, Add</i>	3.45	
23 05 29 00-0844	EA	5/8" Rod Size, Up To 6" Flange Width, Top Mount I-Beam Clamp.....	35.03	6.25
		<i>For Work In Restricted Working Space, Add</i>	3.79	
23 05 29 00-0845	EA	3/4" Rod Size, Up To 6" Flange Width, Top Mount I-Beam Clamp.....	48.15	6.77
		<i>For Work In Restricted Working Space, Add</i>	3.98	
23 05 29 00-0846	EA	7/8" Rod Size, Up To 6" Flange Width, Top Mount I-Beam Clamp.....	73.90	7.82
		<i>For Work In Restricted Working Space, Add</i>	4.69	
23 05 29 00-0847	EA	3/8" Rod Size, >6" To 8" Flange Width, Top Mount I-Beam Clamp.....	25.29	5.20
		<i>For Work In Restricted Working Space, Add</i>	3.12	
23 05 29 00-0848	EA	1/2" Rod Size, >6" To 8" Flange Width, Top Mount I-Beam Clamp.....	30.70	5.73
		<i>For Work In Restricted Working Space, Add</i>	3.45	
23 05 29 00-0849	EA	5/8" Rod Size, >6" To 8" Flange Width, Top Mount I-Beam Clamp.....	35.03	6.25
		<i>For Work In Restricted Working Space, Add</i>	3.79	
23 05 29 00-0850	EA	3/4" Rod Size, >6" To 8" Flange Width, Top Mount I-Beam Clamp.....	52.85	6.77
		<i>For Work In Restricted Working Space, Add</i>	3.98	
23 05 29 00-0851	EA	7/8" Rod Size, >6" To 8" Flange Width, Top Mount I-Beam Clamp.....	81.93	7.82
		<i>For Work In Restricted Working Space, Add</i>	4.69	
23 05 29 00-0852	EA	3/8" Rod Size, >8" To 12" Flange Width, Top Mount I-Beam Clamp.....	28.23	5.20
		<i>For Work In Restricted Working Space, Add</i>	3.12	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0853	EA	1/2" Rod Size, >8" To 12" Flange Width, Top Mount I-Beam Clamp <i>For Work In Restricted Working Space, Add</i>	34.01 3.45	5.73
23 05 29 00-0854	EA	5/8" Rod Size, >8" To 12" Flange Width, Top Mount I-Beam Clamp <i>For Work In Restricted Working Space, Add</i>	42.77 3.79	6.25
23 05 29 00-0855	EA	3/4" Rod Size, >8" To 12" Flange Width, Top Mount I-Beam Clamp <i>For Work In Restricted Working Space, Add</i>	61.64 3.98	6.77
23 05 29 00-0856	EA	7/8" Rod Size, >8" To 12" Flange Width, Top Mount I-Beam Clamp <i>For Work In Restricted Working Space, Add</i>	99.11 4.69	7.82
23 05 29 00-0857 Side Beam Brackets (B-Line B-3062) (23 05 29 00-0791)				
Note: Type 34.				
23 05 29 00-0858	EA	3/8" Rod Size, Side Beam Bracket <i>For Work In Restricted Working Space, Add</i>	19.41 4.18	7.24
23 05 29 00-0859	EA	1/2" Rod Size, Side Beam Bracket <i>For Work In Restricted Working Space, Add</i>	23.00 4.46	7.24
23 05 29 00-0860	EA	5/8" Rod Size, Side Beam Bracket <i>For Work In Restricted Working Space, Add</i>	29.80 4.78	7.80
23 05 29 00-0861	EA	3/4" Rod Size, Side Beam Bracket <i>For Work In Restricted Working Space, Add</i>	53.04 5.15	8.36
23 05 29 00-0862	EA	7/8" Rod Size, Side Beam Bracket <i>For Work In Restricted Working Space, Add</i>	62.11 5.57	9.47
23 05 29 00-0863 Hex Lag Bolts (23 05 29 00-0791)				
Note: Also known as coach screws.				
23 05 29 00-0864	EA	3/8" x 3-1/2" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	3.57 0.70	
23 05 29 00-0865	EA	3/8" x 4" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	3.24 0.72	
23 05 29 00-0866	EA	3/8" x 6" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	3.71 0.75	
23 05 29 00-0867	EA	3/8" x 8" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	4.57 0.77	
23 05 29 00-0868	EA	3/8" x 10" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	4.89 0.80	
23 05 29 00-0869	EA	3/8" x 12" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	7.82 0.84	
23 05 29 00-0870	EA	1/2" x 3-1/2" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	5.20 0.84	
23 05 29 00-0871	EA	1/2" x 4" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	4.53 0.87	
23 05 29 00-0872	EA	1/2" x 6" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	5.37 0.91	
23 05 29 00-0873	EA	1/2" x 8" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	6.30 0.95	
23 05 29 00-0874	EA	1/2" x 10" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	7.54 0.99	
23 05 29 00-0875	EA	1/2" x 12" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	8.11 1.04	
23 05 29 00-0876	EA	5/8" x 4" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	7.78 0.93	
23 05 29 00-0877	EA	3/4" x 5" Long, Hex Lag Bolt <i>For Work In Restricted Working Space, Add</i>	9.47 0.95	
23 05 29 00-0878 Hanger Strap (23 05 29 00-0625)				
23 05 29 00-0879	LF	3/4" Wide x 0.025" Thick Galvanized Hanger Strap.....		5.41
23 05 29 00-0880 Shields And Saddles (23 05 29)				
23 05 29 00-0881 Insulation Protection Shield (23 05 29 00-0880)				
Note: Type 40.				
23 05 29 00-0882 Insulation Protection Shield (Cooper B-Line B3151) (23 05 29 00-0881)				
23 05 29 00-0883	EA	1-1/2" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... <i>For Work In Restricted Working Space, Add</i>	15.48 2.68	2.68
23 05 29 00-0884	EA	2" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... <i>For Work In Restricted Working Space, Add</i>	15.71 2.71	2.71
23 05 29 00-0885	EA	2-1/2" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... <i>For Work In Restricted Working Space, Add</i>	16.09 2.74	2.74
23 05 29 00-0886	EA	3" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... <i>For Work In Restricted Working Space, Add</i>	16.83 2.78	2.77
23 05 29 00-0887	EA	4" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... <i>For Work In Restricted Working Space, Add</i>	18.59 2.84	2.84
23 05 29 00-0888	EA	6" Outside Diameter, 18 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3151)..... <i>For Work In Restricted Working Space, Add</i>	22.63 2.91	2.91
23 05 29 00-0889	EA	8" Outside Diameter, 16 Gauge Insulation Protection Shield, 18" Length (Cooper B-Line B3151)..... <i>For Work In Restricted Working Space, Add</i>	26.29 2.98	2.97
23 05 29 00-0890	EA	10" Outside Diameter, 16 Gauge Insulation Protection Shield, 18" Length (Cooper B-Line B3151)..... <i>For Work In Restricted Working Space, Add</i>	32.09 3.05	3.04
23 05 29 00-0891	EA	12" Outside Diameter, 14 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151)..... <i>For Work In Restricted Working Space, Add</i>	41.12 3.08	3.07

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0892	EA	14" Outside Diameter, 14 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151).....	44.76	3.11
		<i>For Work In Restricted Working Space, Add</i>	3.11	
23 05 29 00-0893	EA	16" Outside Diameter, 14 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151).....	61.50	3.14
		<i>For Work In Restricted Working Space, Add</i>	3.14	
23 05 29 00-0894	EA	18" Outside Diameter, 14 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151).....	69.06	3.17
		<i>For Work In Restricted Working Space, Add</i>	3.18	
23 05 29 00-0895	EA	20" Outside Diameter, 12 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151).....	127.84	3.21
		<i>For Work In Restricted Working Space, Add</i>	3.21	
23 05 29 00-0896	EA	24" Outside Diameter, 12 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151).....	138.94	3.27
		<i>For Work In Restricted Working Space, Add</i>	3.28	
23 05 29 00-0897	EA	30" Outside Diameter, 12 Gauge Insulation Protection Shield, 24" Length (Cooper B-Line B3151).....	167.87	3.35
		<i>For Work In Restricted Working Space, Add</i>	3.34	
23 05 29 00-0898		Insulation Protection Shield (Cooper B-Line B3154) (23 05 29 00-0881)		
23 05 29 00-0899	EA	1-1/2" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	13.68	2.68
		<i>For Work In Restricted Working Space, Add</i>	2.68	
23 05 29 00-0900	EA	2" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	13.87	2.71
		<i>For Work In Restricted Working Space, Add</i>	2.71	
23 05 29 00-0901	EA	2-1/2" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	14.18	2.74
		<i>For Work In Restricted Working Space, Add</i>	2.74	
23 05 29 00-0902	EA	3" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	14.75	2.77
		<i>For Work In Restricted Working Space, Add</i>	2.78	
23 05 29 00-0903	EA	4" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	16.09	2.84
		<i>For Work In Restricted Working Space, Add</i>	2.84	
23 05 29 00-0904	EA	6" Outside Diameter, 18 Gauge Insulation Protection Shield, 8" Length (Cooper B-Line B3154).....	19.07	2.91
		<i>For Work In Restricted Working Space, Add</i>	2.91	
23 05 29 00-0905	EA	8" Outside Diameter, 16 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3154).....	20.49	2.97
		<i>For Work In Restricted Working Space, Add</i>	2.98	
23 05 29 00-0906	EA	10" Outside Diameter, 16 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3154).....	26.06	3.04
		<i>For Work In Restricted Working Space, Add</i>	3.05	
23 05 29 00-0907	EA	12" Outside Diameter, 14 Gauge Insulation Protection Shield, 12" Length (Cooper B-Line B3154).....	31.21	3.07
		<i>For Work In Restricted Working Space, Add</i>	3.08	
23 05 29 00-0908		Pipe Covering Protection Saddle (23 05 29 00-0880)		
		Note: Sizes are pipe sizes.		
23 05 29 00-0909		Saddle, For 1" Insulation (Cooper B-Line B3160) (23 05 29 00-0908)		
23 05 29 00-0910	EA	3/4" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	23.76	3.68
		<i>For Work In Restricted Working Space, Add</i>	3.69	
23 05 29 00-0911	EA	1" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	23.86	3.72
		<i>For Work In Restricted Working Space, Add</i>	3.72	
23 05 29 00-0912	EA	1-1/4" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	23.96	3.75
		<i>For Work In Restricted Working Space, Add</i>	3.75	
23 05 29 00-0913	EA	1-1/2" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	25.13	3.82
		<i>For Work In Restricted Working Space, Add</i>	3.81	
23 05 29 00-0914	EA	2" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	25.24	3.85
		<i>For Work In Restricted Working Space, Add</i>	3.84	
23 05 29 00-0915	EA	2-1/2" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	26.07	3.91
		<i>For Work In Restricted Working Space, Add</i>	3.91	
23 05 29 00-0916	EA	3" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	28.98	3.97
		<i>For Work In Restricted Working Space, Add</i>	3.97	
23 05 29 00-0917	EA	4" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	32.53	4.03
		<i>For Work In Restricted Working Space, Add</i>	4.03	
23 05 29 00-0918	EA	6" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	36.56	4.15
		<i>For Work In Restricted Working Space, Add</i>	4.16	
23 05 29 00-0919	EA	8" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	44.49	4.32
		<i>For Work In Restricted Working Space, Add</i>	4.31	
23 05 29 00-0920	EA	10" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	49.73	4.38
		<i>For Work In Restricted Working Space, Add</i>	4.38	
23 05 29 00-0921	EA	12" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	58.93	4.38
		<i>For Work In Restricted Working Space, Add</i>	4.47	
23 05 29 00-0922	EA	14" Pipe Saddle, For 1" Insulation (Cooper B-Line B3160).....	64.33	4.53
		<i>For Work In Restricted Working Space, Add</i>	4.53	
23 05 29 00-0923		Saddle, For 1-1/2" Insulation (Cooper B-Line B3161) (23 05 29 00-0908)		
23 05 29 00-0924	EA	3/4" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	26.81	3.68
		<i>For Work In Restricted Working Space, Add</i>	3.69	
23 05 29 00-0925	EA	1" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	26.91	3.72
		<i>For Work In Restricted Working Space, Add</i>	3.72	
23 05 29 00-0926	EA	1-1/4" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	27.01	3.75
		<i>For Work In Restricted Working Space, Add</i>	3.75	
23 05 29 00-0927	EA	1-1/2" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	27.97	3.82
		<i>For Work In Restricted Working Space, Add</i>	3.81	
23 05 29 00-0928	EA	2" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	30.20	3.85
		<i>For Work In Restricted Working Space, Add</i>	3.84	
23 05 29 00-0929	EA	2-1/2" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	32.53	3.91
		<i>For Work In Restricted Working Space, Add</i>	3.91	
23 05 29 00-0930	EA	3" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	33.08	3.97
		<i>For Work In Restricted Working Space, Add</i>	3.97	
23 05 29 00-0931	EA	4" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161).....	37.57	3.97
		<i>For Work In Restricted Working Space, Add</i>	4.03	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0932	EA	6" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161)	42.26	4.15
		For Work In Restricted Working Space, Add	4.16	
23 05 29 00-0933	EA	8" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161)	50.08	4.32
		For Work In Restricted Working Space, Add	4.31	
23 05 29 00-0934	EA	10" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161)	56.34	4.38
		For Work In Restricted Working Space, Add	4.38	
23 05 29 00-0935	EA	12" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161)	67.08	4.47
		For Work In Restricted Working Space, Add	4.47	
23 05 29 00-0936	EA	14" Pipe Saddle, For 1-1/2" Insulation (Cooper B-Line B3161)	73.48	4.53
		For Work In Restricted Working Space, Add	4.53	
23 05 29 00-0937		Saddle, For 2" Insulation (Cooper B-Line B3162) (23 05 29 00-0908)		
23 05 29 00-0938	EA	3/4" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	28.68	3.88
		For Work In Restricted Working Space, Add	3.88	
23 05 29 00-0939	EA	1" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	28.78	3.91
		For Work In Restricted Working Space, Add	3.91	
23 05 29 00-0940	EA	1-1/4" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	30.31	3.94
		For Work In Restricted Working Space, Add	3.94	
23 05 29 00-0941	EA	1-1/2" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	31.23	4.00
		For Work In Restricted Working Space, Add	4.00	
23 05 29 00-0942	EA	2" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	32.06	4.03
		For Work In Restricted Working Space, Add	4.03	
23 05 29 00-0943	EA	2-1/2" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	32.27	4.10
		For Work In Restricted Working Space, Add	4.10	
23 05 29 00-0944	EA	3" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	34.11	4.16
		For Work In Restricted Working Space, Add	4.16	
23 05 29 00-0945	EA	4" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	35.97	4.22
		For Work In Restricted Working Space, Add	4.22	
23 05 29 00-0946	EA	6" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	45.92	4.37
		For Work In Restricted Working Space, Add	4.38	
23 05 29 00-0947	EA	8" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	52.08	4.53
		For Work In Restricted Working Space, Add	4.53	
23 05 29 00-0948	EA	10" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	54.69	4.59
		For Work In Restricted Working Space, Add	4.59	
23 05 29 00-0949	EA	12" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	73.92	4.69
		For Work In Restricted Working Space, Add	4.69	
23 05 29 00-0950	EA	14" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	81.89	4.76
		For Work In Restricted Working Space, Add	4.75	
23 05 29 00-0951	EA	16" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	90.07	4.88
		For Work In Restricted Working Space, Add	4.87	
23 05 29 00-0952	EA	18" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	98.25	5.00
		For Work In Restricted Working Space, Add	5.00	
23 05 29 00-0953	EA	20" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	107.79	5.12
		For Work In Restricted Working Space, Add	5.12	
23 05 29 00-0954	EA	24" Pipe Saddle, For 2" Insulation (Cooper B-Line B3162)	123.49	5.25
		For Work In Restricted Working Space, Add	5.25	
23 05 29 00-0955		Saddle, For 2-1/2" Insulation (Cooper B-Line B3163) (23 05 29 00-0908)		
23 05 29 00-0956	EA	1-1/4" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	32.16	4.03
		For Work In Restricted Working Space, Add	4.03	
23 05 29 00-0957	EA	1-1/2" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	33.97	4.09
		For Work In Restricted Working Space, Add	4.10	
23 05 29 00-0958	EA	2" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	34.87	4.13
		For Work In Restricted Working Space, Add	4.13	
23 05 29 00-0959	EA	2-1/2" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	35.87	4.19
		For Work In Restricted Working Space, Add	4.19	
23 05 29 00-0960	EA	3" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	36.19	4.27
		For Work In Restricted Working Space, Add	4.28	
23 05 29 00-0961	EA	4" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	42.13	4.34
		For Work In Restricted Working Space, Add	4.34	
23 05 29 00-0962	EA	6" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	48.29	4.47
		For Work In Restricted Working Space, Add	4.47	
23 05 29 00-0963	EA	8" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	56.33	4.63
		For Work In Restricted Working Space, Add	4.63	
23 05 29 00-0964	EA	10" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	60.40	4.71
		For Work In Restricted Working Space, Add	4.72	
23 05 29 00-0965	EA	12" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	75.83	4.80
		For Work In Restricted Working Space, Add	4.81	
23 05 29 00-0966	EA	14" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	90.14	4.88
		For Work In Restricted Working Space, Add	4.87	
23 05 29 00-0967	EA	16" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	104.66	4.99
		For Work In Restricted Working Space, Add	5.00	
23 05 29 00-0968	EA	18" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	111.21	5.11
		For Work In Restricted Working Space, Add	5.12	
23 05 29 00-0969	EA	20" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	118.50	5.25
		For Work In Restricted Working Space, Add	5.25	
23 05 29 00-0970	EA	24" Pipe Saddle, For 2-1/2" Insulation (Cooper B-Line B3163)	125.78	5.37
		For Work In Restricted Working Space, Add	5.37	
23 05 29 00-0971		Saddle, For 3" Insulation (Cooper B-Line B3164) (23 05 29 00-0908)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-0972 EA 2" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	36.08 4.22	4.22
23 05 29 00-0973 EA 2-1/2" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164) <i>For Work In Restricted Working Space, Add</i>	39.42 4.31	4.31
23 05 29 00-0974 EA 3" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	41.15 4.38	4.37
23 05 29 00-0975 EA 4" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	42.86 4.44	4.44
23 05 29 00-0976 EA 6" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	49.34 4.56	4.57
23 05 29 00-0977 EA 8" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	62.08 4.75	4.74
23 05 29 00-0978 EA 10" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	67.35 4.81	4.81
23 05 29 00-0979 EA 12" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	87.96 4.91	4.92
23 05 29 00-0980 EA 14" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	105.21 5.00	4.99
23 05 29 00-0981 EA 16" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	122.48 5.09	5.10
23 05 29 00-0982 EA 18" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	124.82 5.25	5.24
23 05 29 00-0983 EA 20" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	127.05 5.37	5.36
23 05 29 00-0984 EA 24" Pipe Saddle, For 3" Insulation (Cooper B-Line B3164)..... <i>For Work In Restricted Working Space, Add</i>	161.59 5.50	5.50
23 05 29 00-0985 Saddle, For 4" Insulation (Cooper B-Line B3165) (23 05 29 00-0905)		
23 05 29 00-0986 EA 2" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	40.78 4.31	4.33
23 05 29 00-0987 EA 2-1/2" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165) <i>For Work In Restricted Working Space, Add</i>	44.74 4.41	4.40
23 05 29 00-0988 EA 3" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	46.76 4.47	4.47
23 05 29 00-0989 EA 4" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	48.88 4.53	4.53
23 05 29 00-0990 EA 6" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	59.87 4.69	4.67
23 05 29 00-0991 EA 8" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	70.85 4.84	4.85
23 05 29 00-0992 EA 10" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	73.27 4.94	4.93
23 05 29 00-0993 EA 12" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	94.01 5.03	5.03
23 05 29 00-0994 EA 14" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	114.39 5.09	5.09
23 05 29 00-0995 EA 16" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	134.98 5.22	5.23
23 05 29 00-0996 EA 18" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	165.37 5.34	5.35
23 05 29 00-0997 EA 20" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	195.60 5.50	5.49
23 05 29 00-0998 EA 24" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	209.32 5.63	5.63
23 05 29 00-0999 EA 30" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	220.32 5.78	5.77
23 05 29 00-1000 EA 36" Pipe Saddle, For 4" Insulation (Cooper B-Line B3165)..... <i>For Work In Restricted Working Space, Add</i>	228.46 5.90	5.91
23 05 29 00-1001 Adjustable Pipe Saddle Support (Cooper B-Line B3096) (23 05 29 00-0880)		
23 05 29 00-1002 EA 2" Adjustable Pipe Saddle Support (Cooper B-Line B3096)	92.24	13.93
23 05 29 00-1003 EA 3" Adjustable Pipe Saddle Support (Cooper B-Line B3096)	97.73	16.16
23 05 29 00-1004 EA 4" Adjustable Pipe Saddle Support (Cooper B-Line B3096)	118.80	18.39
23 05 29 00-1005 EA 5" Adjustable Pipe Saddle Support (Cooper B-Line B3096)	123.85	20.06
23 05 29 00-1006 EA 6" Adjustable Pipe Saddle Support (Cooper B-Line B3096)	137.42	22.30
23 05 29 00-1007 EA 8" Adjustable Pipe Saddle Support (Cooper B-Line B3096)	156.17	27.87
23 05 29 00-1008 EA 10" Adjustable Pipe Saddle Support (Cooper B-Line B3096)	204.21	37.34
23 05 29 00-1009 EA 12" Adjustable Pipe Saddle Support (Cooper B-Line B3096)	252.13	55.73
23 05 29 00-1010 Pipe Stanchion Support (Cooper B-Line B3090) (23 05 29 00-0880)		
23 05 29 00-1011 EA 2-1/2" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090)	114.24	13.93
23 05 29 00-1012 EA 3" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090)	118.22	16.16
23 05 29 00-1013 EA 3-1/2" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090)	126.66	17.28
23 05 29 00-1014 EA 4" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090)	129.27	18.39
23 05 29 00-1015 EA 5" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090)	135.90	20.06
23 05 29 00-1016 EA 6" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090)	144.06	22.30
23 05 29 00-1017 EA 8" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090)	182.94	27.87
23 05 29 00-1018 EA 10" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090)	246.80	37.34
23 05 29 00-1019 EA 12" Pipe Stanchion Support With U-Bolt (Cooper B-Line B3090)	322.64	55.73



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-1020 Pipe Saddle Support (Cooper B-Line B3095) (23 05 29 00-0880)		
23 05 29 00-1021 EA 2-1/2" Pipe Saddle Support (Cooper B-Line B3095).....	58.48	13.93
23 05 29 00-1022 EA 3" Pipe Saddle Support (Cooper B-Line B3095).....	62.46	16.16
23 05 29 00-1023 EA 3-1/2" Pipe Saddle Support (Cooper B-Line B3095).....	94.33	17.28
23 05 29 00-1024 EA 4" Pipe Saddle Support (Cooper B-Line B3095).....	96.94	18.39
23 05 29 00-1025 EA 5" Pipe Saddle Support (Cooper B-Line B3095).....	106.59	20.06
23 05 29 00-1026 EA 6" Pipe Saddle Support (Cooper B-Line B3095).....	118.15	22.30
23 05 29 00-1027 EA 8" Pipe Saddle Support (Cooper B-Line B3095).....	135.46	27.87
23 05 29 00-1028 EA 10" Pipe Saddle Support (Cooper B-Line B3095).....	157.92	37.34
23 05 29 00-1029 EA 12" Pipe Saddle Support (Cooper B-Line B3095).....	199.28	55.73
23 05 29 00-1030 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-0880)		
Note: Insert is for use as isolated protective insulation at hangers.		
23 05 29 00-1031 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1030)		
23 05 29 00-1032 EA 1/2" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	15.89	6.99
23 05 29 00-1033 EA 3/4" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	16.19	6.99
23 05 29 00-1034 EA 1" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	16.27	6.99
23 05 29 00-1035 EA 1-1/4" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	16.57	6.99
23 05 29 00-1036 EA 1-1/2" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	17.72	7.42
23 05 29 00-1037 EA 2" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	18.51	7.64
23 05 29 00-1038 EA 2-1/2" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	19.44	7.96
23 05 29 00-1039 EA 3" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	20.46	8.28
23 05 29 00-1040 EA 4" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	22.26	8.60
23 05 29 00-1041 EA 6" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	23.77	7.42
23 05 29 00-1042 EA 8" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	36.74	9.68
23 05 29 00-1043 EA 10" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	43.44	11.40
23 05 29 00-1044 EA 12" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	49.52	13.23
23 05 29 00-1045 EA 14" Diameter Pipe, 1" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	55.81	13.66
23 05 29 00-1046 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1030)		
23 05 29 00-1047 EA 1/2" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	13.70	5.27
23 05 29 00-1048 EA 3/4" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	15.19	5.27
23 05 29 00-1049 EA 1" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	15.54	5.38
23 05 29 00-1050 EA 1-1/4" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	16.07	5.49
23 05 29 00-1051 EA 1-1/2" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	16.57	5.49
23 05 29 00-1052 EA 2" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	17.45	5.70
23 05 29 00-1053 EA 2-1/2" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	18.47	5.91
23 05 29 00-1054 EA 3" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	18.98	6.02
23 05 29 00-1055 EA 4" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	20.92	6.56
23 05 29 00-1056 EA 6" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	31.01	11.29
23 05 29 00-1057 EA 8" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	28.23	8.50
23 05 29 00-1058 EA 10" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	34.21	10.00
23 05 29 00-1059 EA 12" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	38.83	11.50
23 05 29 00-1060 EA 14" Diameter Pipe, 1-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	45.83	13.87
23 05 29 00-1061 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1030)		
23 05 29 00-1062 EA 1/2" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	19.15	6.02
23 05 29 00-1063 EA 3/4" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	19.39	6.02
23 05 29 00-1064 EA 1" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	20.06	6.14
23 05 29 00-1065 EA 1-1/4" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	20.65	6.24
23 05 29 00-1066 EA 1-1/2" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	21.27	6.35
23 05 29 00-1067 EA 2" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	22.09	6.56
23 05 29 00-1068 EA 2-1/2" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	23.27	6.78
23 05 29 00-1069 EA 3" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	24.38	6.99
23 05 29 00-1070 EA 4" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	26.86	7.42
23 05 29 00-1071 EA 6" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	30.74	8.39
23 05 29 00-1072 EA 8" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	47.67	14.31
23 05 29 00-1073 EA 10" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	52.08	16.56
23 05 29 00-1074 EA 12" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	60.06	19.57
23 05 29 00-1075 EA 14" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	67.34	21.94
23 05 29 00-1076 EA 16" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	75.19	24.74
23 05 29 00-1077 EA 18" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	86.11	29.04
23 05 29 00-1078 EA 20" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	95.62	32.27
23 05 29 00-1079 EA 24" Diameter Pipe, 2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	108.02	36.57
23 05 29 00-1080 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1030)		
23 05 29 00-1081 EA 1/2" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	21.93	6.99
23 05 29 00-1082 EA 3/4" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	22.20	6.99

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT
UNIT COST
DEMOLITION
UNIT COST

23 05 29 00-1083	EA	1" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	23.02	7.10
23 05 29 00-1084	EA	1-1/4" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	23.63	7.20
23 05 29 00-1085	EA	1-1/2" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	24.26	7.20
23 05 29 00-1086	EA	2" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	25.25	7.53
23 05 29 00-1087	EA	2-1/2" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	26.60	7.75
23 05 29 00-1088	EA	3" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	27.86	8.07
23 05 29 00-1089	EA	4" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	30.66	8.50
23 05 29 00-1090	EA	6" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	35.13	9.68
23 05 29 00-1091	EA	8" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	46.45	10.76
23 05 29 00-1092	EA	10" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	54.96	12.37
23 05 29 00-1093	EA	12" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	62.94	15.38
23 05 29 00-1094	EA	14" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	70.96	16.88
23 05 29 00-1095	EA	16" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	84.12	21.52
23 05 29 00-1096	EA	18" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	90.26	22.59
23 05 29 00-1097	EA	20" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	102.51	25.82
23 05 29 00-1098	EA	24" Diameter Pipe, 2-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	120.87	31.19

23 05 29 00-1099 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1030)

23 05 29 00-1100	EA	1/2" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	48.17	7.20
23 05 29 00-1101	EA	3/4" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	57.35	7.53
23 05 29 00-1102	EA	1" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	59.67	7.53
23 05 29 00-1103	EA	1-1/4" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	61.14	7.75
23 05 29 00-1104	EA	1-1/2" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	62.87	7.96
23 05 29 00-1105	EA	2" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	64.82	8.07
23 05 29 00-1106	EA	2-1/2" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	68.27	8.28
23 05 29 00-1107	EA	3" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	71.28	8.82
23 05 29 00-1108	EA	4" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	78.65	9.15
23 05 29 00-1109	EA	6" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	89.99	11.18
23 05 29 00-1110	EA	8" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	116.80	12.26
23 05 29 00-1111	EA	10" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	139.01	12.91
23 05 29 00-1112	EA	12" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	159.36	16.67
23 05 29 00-1113	EA	14" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	179.52	17.75
23 05 29 00-1114	EA	16" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	214.60	23.66
23 05 29 00-1115	EA	18" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	231.02	25.82
23 05 29 00-1116	EA	20" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	261.67	27.97
23 05 29 00-1117	EA	24" Diameter Pipe, 3" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	307.40	34.42

23 05 29 00-1118 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1030)

23 05 29 00-1119	EA	1/2" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	21.93	6.99
23 05 29 00-1120	EA	3/4" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	26.49	8.50
23 05 29 00-1121	EA	1" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	27.66	8.50
23 05 29 00-1122	EA	1-1/4" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	28.34	8.60
23 05 29 00-1123	EA	1-1/2" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	29.18	8.71
23 05 29 00-1124	EA	2" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	30.25	9.04
23 05 29 00-1125	EA	2-1/2" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	31.89	9.36
23 05 29 00-1126	EA	3" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	33.31	9.68
23 05 29 00-1127	EA	4" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	36.83	10.22
23 05 29 00-1128	EA	6" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	42.15	11.62
23 05 29 00-1129	EA	8" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	55.34	12.91
23 05 29 00-1130	EA	10" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	65.95	14.84
23 05 29 00-1131	EA	12" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	75.51	18.51
23 05 29 00-1132	EA	14" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	85.16	20.22
23 05 29 00-1133	EA	16" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	100.95	25.82
23 05 29 00-1134	EA	18" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	108.31	27.11
23 05 29 00-1135	EA	20" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	123.07	30.98
23 05 29 00-1136	EA	24" Diameter Pipe, 3-1/2" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	145.04	37.44

23 05 29 00-1137 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate (23 05 29 00-1030)

23 05 29 00-1138	EA	1/2" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	29.56	9.47
23 05 29 00-1139	EA	3/4" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	29.94	9.47
23 05 29 00-1140	EA	1" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	31.05	9.57
23 05 29 00-1141	EA	1-1/4" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	31.95	9.68
23 05 29 00-1142	EA	1-1/2" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	32.63	9.68
23 05 29 00-1143	EA	2" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	34.43	10.33
23 05 29 00-1144	EA	2-1/2" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	35.86	10.44
23 05 29 00-1145	EA	3" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	37.62	10.86
23 05 29 00-1146	EA	4" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	41.40	11.50
23 05 29 00-1147	EA	6" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	47.39	13.02
23 05 29 00-1148	EA	8" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	61.45	14.09
23 05 29 00-1149	EA	10" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	74.21	16.78
23 05 29 00-1150	EA	12" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	84.98	20.86
23 05 29 00-1151	EA	14" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	95.83	22.70
23 05 29 00-1152	EA	16" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	113.63	29.04
23 05 29 00-1153	EA	18" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	121.80	30.44



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 29 00-1154 EA 20" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	136.84	34.86
23 05 29 00-1155 EA 24" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	163.20	42.17
23 05 29 00-1156 EA 26" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	186.11	49.59
23 05 29 00-1157 EA 28" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	211.75	58.52
23 05 29 00-1158 EA 30" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	239.54	69.17
23 05 29 00-1159 EA 42" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	342.53	106.82
23 05 29 00-1160 EA 44" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	368.89	117.57
23 05 29 00-1161 EA 46" Diameter Pipe, 4" Thick 360 Degree Thermal Hanger Shield, Pre-Insulated With Calcium Silicate.....	393.02	126.92
23 05 29 00-1162 Equipment Housekeeping Pads (23 05 29)		
See CSI section 03 31 13 00-0089 for Concrete Equipment Pads.		
23 05 29 00-1163 Molded Plastic Condenser Pad (23 05 29 00-1162)		
23 05 29 00-1164 EA 30" Round Molded Plastic Pad	146.69	13.93
23 05 29 00-1165 EA 30" Octagon Molded Plastic Pad	154.50	13.93
23 05 29 00-1166 EA 30" x 30" Molded Plastic Pad.....	146.69	13.93
23 05 29 00-1167 EA 36" x 36" Molded Plastic Pad.....	193.52	13.93
23 05 29 00-1168 EA 36" x 48" Molded Plastic Pad.....	281.15	13.93
23 05 29 00-1169 Inertia Base (23 05 29 00-1162)		
Note: Includes spring isolators.		
23 05 29 00-1170 EA Up To 12 SF Inertia Base, 8" Thick With Spring Base.....	3,936.19	
23 05 29 00-1171 EA >12 To 16 SF Inertia Base, 8" Thick With Spring Base.....	4,762.80	
23 05 29 00-1172 EA >16 To 20 SF Inertia Base, 8" Thick With Spring Base.....	5,455.91	
23 05 29 00-1173 EA >20 To 24 SF Inertia Base, 8" Thick With Spring Base.....	6,238.03	
23 05 29 00-1174 Hanger Assemblies (23 05 29)		
Note: Includes hanger, rod, nuts, washers, clamps, upper attachment, etc. Not for use where detail is available.		
23 05 29 00-1175 EA 1/2" Standard Duty Clevis Pipe Hanger Assembly	54.17	17.33
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	11.15	
23 05 29 00-1176 EA 3/4" Standard Duty Clevis Pipe Hanger Assembly	56.23	18.36
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	11.77	
23 05 29 00-1177 EA 1" Standard Duty Clevis Pipe Hanger Assembly	57.96	19.48
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	12.27	
23 05 29 00-1178 EA 1-1/4" Standard Duty Clevis Pipe Hanger Assembly	58.87	19.51
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	12.45	
23 05 29 00-1179 EA 1-1/2" Standard Duty Clevis Pipe Hanger Assembly	59.12	19.51
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	12.45	
23 05 29 00-1180 EA 2" Standard Duty Clevis Pipe Hanger Assembly	60.22	19.66
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	12.63	
23 05 29 00-1181 EA 2-1/2" Standard Duty Clevis Pipe Hanger Assembly	73.06	21.28
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	13.00	
23 05 29 00-1182 EA 3" Standard Duty Clevis Pipe Hanger Assembly	74.98	21.89
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	13.20	
23 05 29 00-1183 EA 4" Standard Duty Clevis Pipe Hanger Assembly	93.69	24.71
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	14.58	
23 05 29 00-1184 EA 6" Standard Duty Clevis Pipe Hanger Assembly	143.21	31.93
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	19.16	
23 05 29 00-1185 EA 8" Standard Duty Clevis Pipe Hanger Assembly	161.72	37.04
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	22.22	
23 05 29 00-1186 EA 10" Standard Duty Clevis Pipe Hanger Assembly	216.29	47.05
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	27.88	
23 05 29 00-1187 EA 12" Standard Duty Clevis Pipe Hanger Assembly	234.50	50.63
Note: Includes hanger, rod, nuts, washers and clamp.		
For Work In Restricted Working Space, Add	30.43	
23 05 29 00-1188 Steel Shapes For Hanger Devices (23 05 29)		
23 05 29 00-1189 Angle Iron For Hanger Devices (23 05 29 00-1188)		
23 05 29 00-1190 LF 1/2" x 1/2" x 1/8" Angle Iron For Hanger Devices	2.72	1.62
23 05 29 00-1191 LF 3/4" x 3/4" x 1/8" Angle Iron For Hanger Devices	3.58	2.03
23 05 29 00-1192 LF 1" x 1" x 1/8" Angle Iron For Hanger Devices	4.43	2.42
23 05 29 00-1193 LF 1-1/4" x 1-1/4" x 3/16" Angle Iron For Hanger Devices	6.22	3.01
23 05 29 00-1194 LF 1-1/2" x 1-1/2" x 3/16" Angle Iron For Hanger Devices	6.99	3.24
23 05 29 00-1195 LF 2" x 2" x 1/4" Angle Iron For Hanger Devices	9.60	3.63
23 05 29 00-1196 LF 2-1/2" x 2-1/2" x 1/4" Angle Iron For Hanger Devices	11.98	4.43
23 05 29 00-1197 LF 3" x 2" x 3/8" Angle Iron For Hanger Devices	15.69	5.19
23 05 29 00-1198 LF 3" x 3" x 3/8" Angle Iron For Hanger Devices	18.78	6.07

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 29 Hangers and Supports for HVAC Piping and Equipment**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 05 29 00-1199	Channels For Hanger Devices (23 05 29 00-1188)		
23 05 29 00-1200	LF C2 x 1.78, 2" Wide Channels For Hanger Devices	8.25	4.23
23 05 29 00-1201	LF C3 x 4.1, 3" Wide Channels For Hanger Devices	14.22	6.08
23 05 29 00-1202	LF C4 x 5.4, 4" Wide Channels For Hanger Devices	17.78	7.31
23 05 29 00-1203	LF C5 x 6.7 - 5" Wide Channels For Hanger Devices	21.33	8.52
23 05 29 00-1204	LF C6 x 8.2 - 6" Wide Channels For Hanger Devices	25.84	10.23
23 05 29 00-1205	LF C7 x 9.8 - 7" Wide Channels For Hanger Devices	30.82	12.17
23 05 29 00-1206	LF C8 x 11.5 - 8" Wide Channels For Hanger Devices	34.97	13.39

23 05 29 00-1207	Structural Bar Tees For Hanger Devices (23 05 29 00-1188)		
23 05 29 00-1208	LF 3/4" x 3/4" x 1/8" Structural Bar Tee For Hanger Devices	9.07	5.95
23 05 29 00-1209	LF 1" x 1" x 1/8" Structural Bar Tee For Hanger Devices	10.91	7.04
23 05 29 00-1210	LF 1-1/2" x 1-1/2" x 1/4" Structural Bar Tee For Hanger Devices	15.77	8.12
23 05 29 00-1211	LF 2" x 2" x 1/4" Structural Bar Tee For Hanger Devices	20.33	10.82
23 05 29 00-1212	LF 2-1/2" x 2-1/2" x 3/8" Structural Bar Tee For Hanger Devices	27.98	12.99
23 05 29 00-1213	LF 3" x 3" x 3/8" Structural Bar Tee For Hanger Devices	35.07	16.77

23 05 29 00-1214	Structural Zees For Hanger Devices (23 05 29 00-1188)		
23 05 29 00-1215	LF 1-1/4" x 1-3/4" x 1-3/4" Structural Zee For Hanger Devices	15.79	8.12
23 05 29 00-1216	LF 2-11/16" x 3" x 2-11/16" Structural Zee For Hanger Devices	19.13	8.12
23 05 29 00-1217	LF 3-1/16" x 4" x 3-1/16" Structural Zee For Hanger Devices	28.11	8.12
23 05 29 00-1218	LF 3-1/4" x 5" x 3-1/4" Structural Zee For Hanger Devices	35.64	8.12
23 05 29 00-1219	LF 3-1/2" x 6" x 3-1/2" Structural Zee For Hanger Devices	43.57	8.12

23 05 29 00-1220	Junior I-beams For Hanger Devices (23 05 29 00-1188)		
23 05 29 00-1221	LF 3" I-beam (Junior) For Hanger Devices	19.52	11.90
23 05 29 00-1222	LF 4" I-beam (Junior) For Hanger Devices	22.50	12.99
23 05 29 00-1223	LF 5" I-beam (Junior) For Hanger Devices	26.05	14.07
23 05 29 00-1224	LF 6" I-beam (Junior) For Hanger Devices	28.50	15.69
23 05 29 00-1225	LF 7" I-beam (Junior) For Hanger Devices	34.02	16.77
23 05 29 00-1226	LF 8" I-beam (Junior) For Hanger Devices	36.85	17.85

23 05 33 Heat Tracing for HVAC Piping (23 05)

See CSI section 23 83 13 00-0000 for heat tracing cables.

23 05 48 Vibration and Seismic Controls for HVAC (23 05)**23 05 48 13 Vibration Controls for HVAC** (23 05 48)

23 05 48 13-0001	Unhoused Stable Steel Spring Isolators (23 05 48 13)		
Note: Includes leveling adjustment, cast top, base plate and pad. For use with floor mounted equipment only.			
23 05 48 13-0002	EA 60 LB Unhoused Steel Spring Isolator	101.34	31.20
23 05 48 13-0003	EA 115 LB Unhoused Steel Spring Isolator	107.66	31.20
23 05 48 13-0004	EA 1,130 LB Unhoused Steel Spring Isolator	128.60	31.20

23 05 48 13-0005	Housed Stable Steel Spring Isolators (23 05 48 13)		
Note: Includes leveling adjustment, top plate, base plate and pad. For use with floor mounted equipment only. Mason Industries, Inc.			
23 05 48 13-0006	EA To 770 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 1" Deflection	383.05	31.20
23 05 48 13-0007	EA To 1,040 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 1" Deflection	432.46	31.20
23 05 48 13-0008	EA To 1,600 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 1" Deflection	457.16	31.20
23 05 48 13-0009	EA To 2,250 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 1" Deflection	555.98	31.20
23 05 48 13-0010	EA To 3,250 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 1" Deflection	580.68	31.20
23 05 48 13-0011	EA To 730 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	426.28	31.20
23 05 48 13-0012	EA To 930 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	469.52	31.20
23 05 48 13-0013	EA To 1,440 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	500.40	31.20
23 05 48 13-0014	EA To 1,860 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	642.44	31.20
23 05 48 13-0015	EA To 2,880 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	698.03	31.20
23 05 48 13-0016	EA To 3,720 LB Housed Hot Dipped Galvanized Steel Spring Isolator, 2" Deflection	827.72	31.20

23 05 48 13-0017 Vibration Isolators (23 05 48 13)

23 05 48 13-0018	Spring And Rubber Hanger For 1" Deflection (23 05 48 13-0017)		
23 05 48 13-0019	EA 50 To 500 LB Rated Spring And Rubber Hanger For Vibration Isolation With 3/4" Max Rod Size	132.81	20.06
23 05 48 13-0020	EA 600 To 1,000 LB Rated Spring And Rubber Hanger For Vibration Isolation With 7/8" Max Rod Size	278.31	22.30

23 05 48 13-0021	Rubber-In-Shear Isolator Hanger (23 05 48 13-0017)		
23 05 48 13-0022	EA 45-340 LB Rubber In Shear Hanger 0.38" Deflection With <1/2" Rod Size	74.12	16.72
23 05 48 13-0023	EA 130-700 LB Rubber In Shear Hanger 0.43" Deflection With <3/4" Rod Size	95.98	20.06



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 48 13-0024 Spring Hanger For 1" Deflection (23 05 48 13-0017)		
23 05 48 13-0025 EA 50 To 1,000 LB Rubber In Shear Hanger For 1" Deflection With <3/4" Rod Size.....	84.12	20.06
23 05 48 13-0026 Rubber-In-Shear Vibration Isolator (23 05 48 13-0017)		
23 05 48 13-0027 EA 45 To 340 LB Rubber In Shear Vibration Isolation With 0.38" Deflection	154.83	37.90
23 05 48 13-0028 EA 130 To 700 LB Rubber In Shear Vibration Isolation With 0.43" Deflection	210.72	37.90
23 05 48 13-0029 EA 550 To 1,920 LB Rubber In Shear Vibration Isolation With 0.48" Deflection	402.52	37.90
23 05 48 13-0030 Two-Piece Spring Type Vibration Isolator (23 05 48 13-0017)		
Note: For equipment support aluminum construction 1/2" adjusting and leveling bolt 1" deflection.		
23 05 48 13-0031 EA 50 To 1,000 LB Rated Load 2-Piece Isolator Spring Type Vibration Isolator.....	131.28	37.90
23 05 48 13-0032 EA >1,000 To 1,600 LB Rated Load 2-Piece Isolator Spring Type Vibration Isolator.....	135.44	37.90
23 05 48 13-0033 Open Double Spring Type Vibration Isolator (23 05 48 13-0017)		
Note: For equipment support 1" deflection neoprene pad and 5/8" stud bolt.		
23 05 48 13-0034 EA 150 To 450 LB Rated Load Open Isolator, Double Spring Type Vibration Isolator	101.59	18.95
23 05 48 13-0035 EA 500 To 1,000 LB Rated Load Open Isolator, Double Spring Type Vibration Isolator	101.59	18.95
23 05 48 13-0036 EA 1,100 To 1,600 LB Rated Load Open Isolator, Double Spring Type Vibration Isolator	115.47	18.95
23 05 48 13-0037 EA 1,700 To 2,400 LB Rated Load Open Isolator, Double Spring Type Vibration Isolator	115.47	18.95
23 05 48 13-0038 EA 2,500 To 3,400 LB Rated Load Open Isolator, Double Spring Type Vibration Isolator	178.27	18.95
23 05 48 13-0039 Isolation Pads (23 05 48 13-0017)		
23 05 48 13-0040 Laminated Neoprene And Cork Isolation Pad (23 05 48 13-0039)		
23 05 48 13-0041 EA 2" x 2", 1" Thick Laminated Neoprene And Cork Isolation Pad.....	6.89	2.79
23 05 48 13-0042 EA 3" x 3", 1" Thick Laminated Neoprene And Cork Isolation Pad.....	8.97	2.90
23 05 48 13-0043 EA 4" x 4", 1" Thick Laminated Neoprene And Cork Isolation Pad.....	11.38	3.01
23 05 48 13-0044 EA 12" x 12", 1" Thick Laminated Neoprene And Cork Isolation Pad.....	46.87	3.46
23 05 48 13-0045 EA 18" x 18", 1" Thick Laminated Neoprene And Cork Isolation Pad.....	90.33	3.90
23 05 48 13-0046 Neoprene And Steel Plate Isolation Pad (23 05 48 13-0039)		
23 05 48 13-0047 EA 6" x 4", 5/8" Thick Steel Plate And Ribbed Neoprene Isolation Pad	194.28	2.79
23 05 48 13-0048 EA 6" x 4", 7/8" Thick Steel Plate And Ribbed Neoprene Isolation Pad	215.20	2.79
23 05 48 13-0049 Neoprene Isolation Pad (23 05 48 13-0039)		
23 05 48 13-0050 EA 2" x 2", 3/8" Thick Ribbed Neoprene Isolation Pad.....	6.38	2.79
23 05 48 13-0051 EA 3" x 3", 3/8" Thick Ribbed Neoprene Isolation Pad.....	7.34	2.79
23 05 48 13-0052 EA 4" x 4", 3/8" Thick Ribbed Neoprene Isolation Pad.....	8.88	2.79
23 05 48 13-0053 EA 12" x 12", 3/8" Thick Ribbed Neoprene Isolation Pad.....	46.10	3.35
23 05 48 13-0054 EA 18" x 18", 3/8" Thick Ribbed Neoprene Isolation Pad.....	84.84	3.90
23 05 48 13-0055 Miscellaneous Piping Isolators (23 05 48 13-0017)		
23 05 48 13-0056 EA Vibration Isolator, 2" Deflector	969.70	33.44
Note: M.M. Sausse Model # RMXA.		
23 05 48 13-0057 Threaded Flexible Bronze Hose Connectors (23 05 48 13)		
Note: Includes hex threaded nipple ends.		
23 05 48 13-0058 EA 3/8" Diameter x 9" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	71.83	17.83
23 05 48 13-0059 EA 1/2" Diameter x 10" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	84.33	24.52
23 05 48 13-0060 EA 3/4" Diameter x 11" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	103.49	30.10
23 05 48 13-0061 EA 1" Diameter x 12" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	120.47	35.67
23 05 48 13-0062 EA 1-1/4" Diameter x 12" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	138.17	46.81
23 05 48 13-0063 EA 1-1/2" Diameter x 14" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	155.66	49.82
23 05 48 13-0064 EA 2" Diameter x 14" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	208.24	59.07
23 05 48 13-0065 EA 2-1/2" Diameter x 16" Flexible Hose Connection, For Vibration Isolation, Bronze Hose With Hex Threaded Nipple Ends	287.08	92.07
23 05 48 13-0066 Weld End Flexible Hose Connectors (23 05 48 13)		
23 05 48 13-0067 EA 1/2" Diameter x 10" Flexible Hose Connection, Weld Ends	256.91	63.98
23 05 48 13-0068 EA 3/4" Diameter x 10" Flexible Hose Connection, Weld Ends	300.67	70.22
23 05 48 13-0069 EA 1" Diameter x 10" Flexible Hose Connection, Weld Ends	339.67	74.35
23 05 48 13-0070 EA 1-1/4" Diameter x 11" Flexible Hose Connection, Weld Ends.....	379.60	84.72
23 05 48 13-0071 EA 1-1/2" Diameter x 12" Flexible Hose Connection, Weld Ends.....	431.17	91.40
23 05 48 13-0072 EA 2" Diameter x 14" Flexible Hose Connection, Weld Ends.....	540.77	118.93

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 48 Vibration and Seismic Controls for HVAC**

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 48 13-0073	EA	2-1/2" Diameter x 16" Flexible Hose Connection, Weld Ends.....	818.02	133.76	
23 05 48 13-0074	EA	3" Diameter x 16" Flexible Hose Connection, Weld Ends.....	1,012.17	150.48	
23 05 48 13-0075	EA	4" Diameter x 18" Flexible Hose Connection, Weld Ends.....	1,398.44	222.93	
23 05 48 13-0076 Flanged Flexible Hose Connectors (23 05 48 13)					
23 05 48 13-0077 Flanged Flexible Molded Rubber Hose Connectors (23 05 48 13-0076)					
Note: With helical wire reinforcement 150 PSI.					
23 05 48 13-0078	EA	1-1/2" Diameter x 12" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI.....	217.95	83.60	
23 05 48 13-0079	EA	2" Diameter x 12" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI.....	235.91	92.85	
23 05 48 13-0080	EA	2-1/2" Diameter x 12" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI.....	384.97	185.48	
23 05 48 13-0081	EA	3" Diameter x 12" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI.....	533.92	275.88	
23 05 48 13-0082	EA	4" Diameter x 12" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI.....	695.46	356.13	
23 05 48 13-0083	EA	6" Diameter x 18" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI.....	881.22	370.36	
23 05 48 13-0084	EA	8" Diameter x 24" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI.....	1,070.32	423.00	
23 05 48 13-0085	EA	10" Diameter x 24" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI.....	1,384.62	503.40	
23 05 48 13-0086	EA	12" Diameter x 24" Molded Rubber Connectors With Helical Wire Reinforcement 150 PSI.....	3,373.06	629.61	
23 05 48 13-0087 Flanged Flexible Corrugated Stainless Steel Hose Connectors (23 05 48 13-0076)					
Note: With braided metal wire.					
23 05 48 13-0088	EA	1/2" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	170.07	76.02	
23 05 48 13-0089	EA	1" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	166.23	104.56	
23 05 48 13-0090	EA	1-1/2" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	317.29	139.33	
23 05 48 13-0091	EA	2" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	412.76	208.99	
23 05 48 13-0092	EA	2-1/2" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	444.07	229.95	
23 05 48 13-0093	EA	3" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	516.42	278.44	
23 05 48 13-0094	EA	4" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	661.21	356.46	
23 05 48 13-0095	EA	4" Diameter x 30" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	1,193.66	491.78	
23 05 48 13-0096	EA	4" Diameter x 36" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	1,366.49	576.50	
23 05 48 13-0097	EA	6" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	910.48	443.54	
23 05 48 13-0098	EA	6" Diameter x 36" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	1,724.44	555.54	
23 05 48 13-0099	EA	8" Diameter x 12" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	1,482.99	592.57	
23 05 48 13-0100	EA	10" Diameter x 13" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	1,745.02	685.22	
23 05 48 13-0101	EA	12" Diameter x 14" Metal Wire Braid Connector, Over Corrugated Stainless Steel, 150 PSI For Vibration Isolation.....	2,240.59	740.72	
23 05 48 13-0102 Flanged Flexible Molded Teflon Hose Connectors (23 05 48 13-0076)					
Note: 150 PSI.					
23 05 48 13-0103	EA	2-1/2" Diameter x 3-3/16" Molded Teflon Connectors With Stainless Steel Flanges, 150 PSI, For Vibration Isolation.....	942.66	161.63	
23 05 48 13-0104	EA	3" Diameter x 3-5/8" Molded Teflon Connectors With Stainless Steel Flanges, 150 PSI, For Vibration Isolation.....	1,057.54	189.50	
23 05 48 13-0105	EA	4" Diameter x 3-5/8" Molded Teflon Connectors With Stainless Steel Flanges, 150 PSI, For Vibration Isolation.....	1,603.71	318.48	
23 05 48 13-0106	EA	6" Diameter x 4" Molded Teflon Connectors With Stainless Steel Flanges, 150 PSI, For Vibration Isolation.....	1,948.87	370.36	
23 05 48 13-0107	EA	8" Diameter x 6" Molded Teflon Connectors With Stainless Steel Flanges, 150 PSI, For Vibration Isolation.....	2,559.87	454.31	
23 05 48 13-0108 Flexible Hose Connectors Braided Metal Hose Type (23 05 48 13)					
23 05 48 13-0109 Braided Metal Hose Type Flexible Bronze Hose Connectors (23 05 48 13-0108)					
Note: MPT connection.					
23 05 48 13-0110	EA	1/2" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	37.21	2.23	
23 05 48 13-0111	EA	1/2" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	44.46	2.23	
23 05 48 13-0112	EA	1/2" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	49.49	2.90	
23 05 48 13-0113	EA	1/2" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	60.17	2.90	
23 05 48 13-0114	EA	3/4" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	49.80	2.68	
23 05 48 13-0115	EA	3/4" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	60.15	2.68	
23 05 48 13-0116	EA	3/4" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	68.85	3.45	
23 05 48 13-0117	EA	3/4" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	84.96	3.45	
23 05 48 13-0118	EA	1" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	67.93	3.12	
23 05 48 13-0119	EA	1" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	74.28	3.12	
23 05 48 13-0120	EA	1" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	88.29	4.12	
23 05 48 13-0121	EA	1" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	111.85	4.12	
23 05 48 13-0122	EA	1" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	135.23	4.12	
23 05 48 13-0123	EA	1" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	158.69	4.12	
23 05 48 13-0124	EA	1-1/4" Or 1-1/2" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	96.76	4.00	
23 05 48 13-0125	EA	1-1/4" Or 1-1/2" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	106.64	4.00	
23 05 48 13-0126	EA	1-1/4" Or 1-1/2" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	136.78	4.00	
23 05 48 13-0127	EA	1-1/4" Or 1-1/2" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	190.17	5.33	
23 05 48 13-0128	EA	1-1/4" Or 1-1/2" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	220.54	5.33	
23 05 48 13-0129	EA	1-1/4" Or 1-1/2" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	260.95	5.33	
23 05 48 13-0130	EA	2" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	132.44	4.83	
23 05 48 13-0131	EA	2" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	153.11	4.83	
23 05 48 13-0132	EA	2" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	193.13	4.83	
23 05 48 13-0133	EA	2" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	257.58	6.46	
23 05 48 13-0134	EA	2" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	318.58	6.46	
23 05 48 13-0135	EA	2" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	379.52	6.46	
23 05 48 13-0136	EA	2-1/2" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	183.87	6.06	
23 05 48 13-0137	EA	2-1/2" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	209.32	5.74	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Common Work Results for HVAC 23 05

Vibration and Seismic Controls for HVAC 23 05 48

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 48 13-0138 EA 2-1/2" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	235.03	5.74
23 05 48 13-0139 EA 2-1/2" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	299.85	7.70
23 05 48 13-0140 EA 2-1/2" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	341.56	7.70
23 05 48 13-0141 EA 2-1/2" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	391.65	7.70
23 05 48 13-0142 EA 3" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	289.88	7.70
23 05 48 13-0143 EA 3" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	324.22	7.70
23 05 48 13-0144 EA 3" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	1,558.28	7.70
23 05 48 13-0145 EA 3" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	1,874.48	10.26
23 05 48 13-0146 EA 3" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	502.03	10.26
23 05 48 13-0147 EA 3" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	569.61	10.26
23 05 48 13-0148 EA 4" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	530.54	9.11
23 05 48 13-0149 EA 4" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	570.66	9.11
23 05 48 13-0150 EA 4" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	610.79	9.11
23 05 48 13-0151 EA 4" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	698.43	12.14
23 05 48 13-0152 EA 4" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	778.38	12.14
23 05 48 13-0153 EA 4" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, MPT Connection.....	860.04	12.14
23 05 48 13-0154 Braided Stainless Steel Flexible Hose Connectors (23 05 48 13-0108)		
Note: Over braided carbon steel connection.		
23 05 48 13-0155 EA 2" Diameter x 12" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	157.78	4.90
23 05 48 13-0156 EA 2" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	190.61	4.90
23 05 48 13-0157 EA 2" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	222.83	4.90
23 05 48 13-0158 EA 2" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	291.65	6.56
23 05 48 13-0159 EA 2" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	356.95	6.56
23 05 48 13-0160 EA 2" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	422.18	6.56
23 05 48 13-0161 EA 2-1/2" Or 3" Diameter x 12" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	178.85	5.74
23 05 48 13-0162 EA 2-1/2" Or 3" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	213.16	5.74
23 05 48 13-0163 EA 2-1/2" Or 3" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	247.63	5.74
23 05 48 13-0164 EA 2-1/2" Or 3" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	320.81	7.70
23 05 48 13-0165 EA 2-1/2" Or 3" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	389.47	7.70
23 05 48 13-0166 EA 2-1/2" Or 3" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	457.18	7.70
23 05 48 13-0167 EA 4" Diameter x 12" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	189.83	7.70
23 05 48 13-0168 EA 4" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	229.14	7.90
23 05 48 13-0169 LF 4" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	269.01	7.70
23 05 48 13-0170 EA 4" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	356.27	10.26
23 05 48 13-0171 EA 4" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	435.58	10.26
23 05 48 13-0172 EA 4" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	517.14	10.26
23 05 48 13-0173 EA 6" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	382.79	15.00
23 05 48 13-0174 EA 6" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	564.59	15.10
23 05 48 13-0175 EA 6" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	757.15	19.90
23 05 48 13-0176 EA 6" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	939.02	19.90
23 05 48 13-0177 EA 6" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	1,120.84	19.90
23 05 48 13-0178 EA 8" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	664.21	18.54
23 05 48 13-0179 EA 8" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	801.75	18.54
23 05 48 13-0180 EA 8" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	1,086.89	24.11
23 05 48 13-0181 EA 8" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	1,359.75	24.11
23 05 48 13-0182 EA 8" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	1,632.53	24.11
23 05 48 13-0183 EA 10" Diameter x 18" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	711.77	23.18
23 05 48 13-0184 EA 10" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	1,055.64	23.18
23 05 48 13-0185 EA 10" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	1,413.85	30.18
23 05 48 13-0186 EA 10" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded.....	1,758.93	30.18

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 48 Vibration and Seismic Controls for HVAC**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 48 13-0187	EA	10" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	2,102.54	30.18
23 05 48 13-0188	EA	12" Diameter x 24" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	1,410.76	28.02
23 05 48 13-0189	EA	12" Diameter x 36" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	1,839.90	28.02
23 05 48 13-0190	EA	12" Diameter x 48" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	2,302.00	37.70
23 05 48 13-0191	EA	12" Diameter x 60" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	2,734.91	37.70
23 05 48 13-0192	EA	12" Diameter x 72" Long, Flexible Hose Connectors, Braided Stainless Steel Over Braided Carbon Steel Connection, Welded	3,169.84	37.70
23 05 48 13-0193 Braided Metal Hose Type Flexible Bronze Hose Connectors (23 05 48 13-0108)				
Note: Flanged end connection (carbon steel ends).				
23 05 48 13-0194	EA	2" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	690.85	4.83
23 05 48 13-0195	EA	2" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,145.04	136.77
23 05 48 13-0196	EA	2" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,439.48	136.77
23 05 48 13-0197	EA	2" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,733.91	136.77
23 05 48 13-0198	EA	2" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,028.47	136.77
23 05 48 13-0199	EA	2-1/2" Or 3" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	989.19	174.43
23 05 48 13-0200	EA	2-1/2" Or 3" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,299.46	174.43
23 05 48 13-0201	EA	2-1/2" Or 3" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,609.84	174.43
23 05 48 13-0202	EA	2-1/2" Or 3" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,920.35	174.43
23 05 48 13-0203	EA	2-1/2" Or 3" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,225.42	174.43
23 05 48 13-0204	EA	4" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,316.09	292.42
23 05 48 13-0205	EA	4" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	1,678.25	293.16
23 05 48 13-0206	EA	4" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,046.30	292.42
23 05 48 13-0207	EA	4" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,457.80	292.42
23 05 48 13-0208	EA	4" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,772.23	292.42
23 05 48 13-0209	EA	6" Diameter x 12" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,139.03	374.97
23 05 48 13-0210	EA	6" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	2,959.60	374.97
23 05 48 13-0211	EA	6" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	3,780.63	376.31
23 05 48 13-0212	EA	6" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	4,601.31	374.97
23 05 48 13-0213	EA	6" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	5,421.88	374.97
23 05 48 13-0214	EA	8" Diameter x 18" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	3,757.96	473.89
23 05 48 13-0215	EA	8" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	4,378.73	473.89
23 05 48 13-0216	EA	8" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	5,609.52	473.89
23 05 48 13-0217	EA	8" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	6,840.78	473.89
23 05 48 13-0218	EA	8" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	8,071.46	473.89
23 05 48 13-0219	EA	10" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	6,369.56	576.92
23 05 48 13-0220	EA	10" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	7,916.18	576.92
23 05 48 13-0221	EA	10" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	9,473.19	576.92
23 05 48 13-0222	EA	10" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	11,026.85	576.92
23 05 48 13-0223	EA	10" Diameter x 72" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	12,282.49	576.92
23 05 48 13-0224	EA	12" Diameter x 24" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	8,742.26	700.55
23 05 48 13-0225	EA	12" Diameter x 36" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	10,704.88	700.55
23 05 48 13-0226	EA	12" Diameter x 48" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	12,667.38	700.55
23 05 48 13-0227	EA	12" Diameter x 60" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	14,629.88	700.55



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

23 05 48 13-0228	EA	12" Diameter x 72" Long, Flexible Hose Connectors, Braided Metal Hose, Bronze, Flanged End Connection (Carbon Steel Ends)	16,592.49	700.55

23 05 53 Identification for HVAC Piping and Equipment (23 05)

23 05 53 00-0001 Systems Identification (23 05 53)

23 05 53 00-0002 Pipe Marker Snap-On Type Plastic (23 05 53 00-0001)

Note: Outside diameters of insulation where necessary.

23 05 53 00-0003	EA	1/2" Outside Diameter Snap-On Plastic Marker	20.05	
23 05 53 00-0004	EA	3/4" Outside Diameter Snap-On Plastic Marker	20.33	
23 05 53 00-0005	EA	1" Outside Diameter Snap-On Plastic Marker	20.48	
23 05 53 00-0006	EA	1-1/4" Outside Diameter Snap-On Plastic Marker	20.80	
23 05 53 00-0007	EA	1-1/2" Outside Diameter Snap-On Plastic Marker	24.26	
23 05 53 00-0008	EA	2" Outside Diameter Snap-On Plastic Marker	24.76	
23 05 53 00-0009	EA	2-1/2" Outside Diameter Snap-On Plastic Marker	39.75	
23 05 53 00-0010	EA	3" Outside Diameter Snap-On Plastic Marker	40.16	
23 05 53 00-0011	EA	3-1/2" Outside Diameter Snap-On Plastic Marker	40.58	
23 05 53 00-0012	EA	4" Outside Diameter Snap-On Plastic Marker	40.81	
23 05 53 00-0013	EA	4-1/2" Outside Diameter Snap-On Plastic Marker	41.05	
23 05 53 00-0014	EA	5" Outside Diameter Snap-On Plastic Marker	41.29	
23 05 53 00-0015	EA	6" Outside Diameter Snap-On Plastic Marker	43.28	
23 05 53 00-0016	EA	7" Outside Diameter Snap-On Plastic Marker	43.55	
23 05 53 00-0017	EA	8" Outside Diameter Snap-On Plastic Marker	53.84	
23 05 53 00-0018	EA	10" Outside Diameter Snap-On Plastic Marker	55.61	
23 05 53 00-0019	EA	12" Outside Diameter Snap-On Plastic Marker	64.00	
23 05 53 00-0020	EA	14" Outside Diameter Snap-On Plastic Marker	73.42	

23 05 53 00-0021 Pipe Markers Pressure-Sensitive (23 05 53 00-0001)

Note: Outside diameter includes insulation where necessary.

23 05 53 00-0022	EA	1/2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	13.37	
23 05 53 00-0023	EA	3/4" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	13.92	
23 05 53 00-0024	EA	1" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	15.05	
23 05 53 00-0025	EA	1-1/4" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	15.26	
23 05 53 00-0026	EA	1-1/2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	16.39	
23 05 53 00-0027	EA	2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	16.73	
23 05 53 00-0028	EA	2-1/2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	19.06	
23 05 53 00-0029	EA	3" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	19.50	
23 05 53 00-0030	EA	3-1/2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	19.83	
23 05 53 00-0031	EA	4" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	20.18	
23 05 53 00-0032	EA	4-1/2" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	20.87	
23 05 53 00-0033	EA	5" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	21.62	
23 05 53 00-0034	EA	6" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	22.27	
23 05 53 00-0035	EA	7" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	22.92	
23 05 53 00-0036	EA	8" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	25.49	
23 05 53 00-0037	EA	10" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	26.72	
23 05 53 00-0038	EA	12" Outside Diameter Press-Sensitive Marker Stick-on With Arrow Tape Over Insulation	31.33	

23 05 53 00-0039 Valve Identification Tag (23 05 53 00-0001)

Note: Includes beaded chain and/or "S" hook.

23 05 53 00-0040	EA	2" Diameter Identification Tag, Brass	11.75	
23 05 53 00-0041	EA	1-1/2" Diameter Identification Tag, Plastic	11.00	
23 05 53 00-0042	EA	1-1/2" Diameter Identification Tag, Brass	10.77	

23 05 53 00-0043 Medical Pipe Labels Pressure-Sensitive (23 05 53 00-0001)

23 05 53 00-0044	LF	3" Wide, Vinyl Medical Gas Pipe Pressure Sensitive Stick-On Label	21.59	

23 05 66 Anti-Microbial Ultraviolet Emitters for HVAC Ducts and Equipment (23 05)

23 05 66 00-0001 Double Ended Ultraviolet HVAC Microbial Control Fixtures (23 05 66)

23 05 66 00-0002	EA	18" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-181-VO)	1,037.87	82.04
Note: Includes tube.				
23 05 66 00-0003	EA	24" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-241-VO)	1,083.40	86.10
Note: Includes tube.				
23 05 66 00-0004	EA	30" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-301-VO)	1,086.03	89.79
Note: Includes tube.				
23 05 66 00-0005	EA	36" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-361-VO)	1,136.77	94.34
Note: Includes tube.				
23 05 66 00-0006	EA	42" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-421-VO)	1,230.54	98.39
Note: Includes tube.				
23 05 66 00-0007	EA	62" Double Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire DE-621-VO)	1,128.30	101.47
Note: Includes tube.				

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 66 Anti-Microbial Ultraviolet Emitters for HVAC Ducts and Equipment**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 66 00-0008			Single Ended Ultraviolet HVAC Microbial Control Fixtures (23 05 66)		
23 05 66 00-0009	EA		12" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-121-VO) Note: Includes tube.	868.34	56.82
23 05 66 00-0010	EA		16" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-161-VO) Note: Includes tube.	879.73	61.49
23 05 66 00-0011	EA		20" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-201-VO) Note: Includes tube.	901.63	65.18
23 05 66 00-0012	EA		24" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-241-VO) Note: Includes tube.	912.29	70.10
23 05 66 00-0013	EA		30" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-301-VO) Note: Includes tube.	934.93	73.79
23 05 66 00-0014	EA		36" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-361-VO) Note: Includes tube.	951.58	77.49
23 05 66 00-0015	EA		42" Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SE-421-VO) Note: Includes tube.	973.48	82.40
23 05 66 00-0016	EA		12" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-121-VO) Note: Includes tube.	990.62	56.82
23 05 66 00-0017	EA		16" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-161-VO) Note: Includes tube.	1,002.01	61.49
23 05 66 00-0018	EA		20" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-201-VO) Note: Includes tube.	1,023.91	65.18
23 05 66 00-0019	EA		24" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-241-VO) Note: Includes tube.	1,034.57	70.10
23 05 66 00-0020	EA		30" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-301-VO) Note: Includes tube.	1,057.21	73.79
23 05 66 00-0021	EA		36" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-361-VO) Note: Includes tube.	1,073.86	77.49
23 05 66 00-0022	EA		42" NEMA 4X Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire SEN-421-VO) Note: Includes tube.	1,095.76	82.40
23 05 66 00-0023	EA		16" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-161-VO) Note: Includes tube.	688.32	61.49
23 05 66 00-0024	EA		20" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-201-VO) Note: Includes tube.	710.22	65.18
23 05 66 00-0025	EA		24" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-241-VO) Note: Includes tube.	720.88	70.10
23 05 66 00-0026	EA		30" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-301-VO) Note: Includes tube.	743.52	73.79
23 05 66 00-0027	EA		36" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-361-VO) Note: Includes tube.	760.17	77.49
23 05 66 00-0028	EA		42" Residential Type Single Ended Ultraviolet HVAC Microbial Control Fixture (Steril-Aire RSE-421-VO) Note: Includes tube.	782.07	82.40
23 05 66 00-0029			Fan Coil Unit Ultraviolet Microbial Control Fixtures (23 05 66)		
23 05 66 00-0030	EA		16" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	636.09	78.71
23 05 66 00-0031	EA		20" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	649.84	82.40
23 05 66 00-0032	EA		24" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	663.58	86.10
23 05 66 00-0033	EA		30" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	682.25	89.79
23 05 66 00-0034	EA		36" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	706.54	94.34
23 05 66 00-0035	EA		42" Fan Coil Unit Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	727.88	98.39
23 05 66 00-0036			Ultraviolet HVAC Microbial Control Replacement Parts (23 05 66)		
23 05 66 00-0037	EA		18" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-16-VO) Note: Includes tube.	168.16	
23 05 66 00-0038	EA		24" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-22-VO) Note: Includes tube.	176.84	
23 05 66 00-0039	EA		30" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-28-VO) Note: Includes tube.	201.28	
23 05 66 00-0040	EA		36" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-34-VO) Note: Includes tube.	232.75	
23 05 66 00-0041	EA		42" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-40-VO) Note: Includes tube.	264.92	
23 05 66 00-0042	EA		62" Double Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTD-60-VO) Note: Includes tube.	261.51	
23 05 66 00-0043	EA		12" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-12-VO) Note: Includes tube.	121.56	
23 05 66 00-0044	EA		16" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-16-VO) Note: Includes tube.	128.04	
23 05 66 00-0045	EA		20" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-20-VO) Note: Includes tube.	145.01	
23 05 66 00-0046	EA		24" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-24-VO) Note: Includes tube.	150.75	
23 05 66 00-0047	EA		30" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-30-VO) Note: Includes tube.	168.48	
23 05 66 00-0048	EA		36" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-36-VO) Note: Includes tube.	180.21	
23 05 66 00-0049	EA		42" Single Ended Ultraviolet HVAC Microbial Control Tube Replacement (Steril-Aire GTS-42-VO) Note: Includes tube.	197.19	
23 05 66 00-0050	EA		Removal And Replacement Of Power Supply For Ultraviolet Microbial Control Fixture (Steril-Aire) Note: Includes tube.	494.67	
23 05 66 00-0051			Ultraviolet HVAC Microbial Control Mounting Accessories (23 05 66)		
23 05 66 00-0052	EA		Two Spring Clip, 61" Emitter Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 11006610) Note: Includes 61" emitter, power supply, wires and connectors.	697.76	
23 05 66 00-0053	EA		Two Spring Clip, 61" Sleeved Emitter Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 11006620) Note: Includes 61" emitter, power supply, wires and connectors.	894.96	
23 05 66 00-0054	EA		Two Spring Clip, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-1) Note: Includes power supply, wires and connectors. Excludes emitter.	403.74	



Heating, Ventilating, and Air-Conditioning (HVAC)

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Common Work Results for HVAC 23 05

Anti-Microbial Ultraviolet Emitters for HVAC Ducts and Equipment 23 05 66

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 66 00-0055 EA Two Short Hook Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-2).....	427.89	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0056 EA Flat Plate For Metal, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-3)	556.25	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0057 EA Flat Plate For Plastic, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-4)	344.26	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0058 EA Insert Lamp Holder, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-5)	373.95	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0059 EA 16" U-Bracket, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-6)	485.86	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0060 EA 12" U-Bracket, Air Handler Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 10000166-7)	479.01	
Note: Includes power supply, wires and connectors. Excludes emitter.		
23 05 66 00-0061 LF 30 x 30 mm Framing Structure For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000101)	18.01	
23 05 66 00-0062 EA Vertical Support Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000111)	60.48	
23 05 66 00-0063 EA Joint Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000112)	20.57	
23 05 66 00-0064 EA Emitter Mounting Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000113)	19.37	
23 05 66 00-0065 EA Foundation Bracket FB 8WA For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000104)	55.59	
23 05 66 00-0066 EA Slider Assembly Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000114)	67.23	
23 05 66 00-0067 EA Splice Kit For Horizontal Rows For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000108)	59.61	
23 05 66 00-0068 EA Gusset Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000115)	48.19	
23 05 66 00-0069 EA ISO "A" Bracket Hanger For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 15000109)	45.47	
23 05 66 00-0070 EA DE Boot Kit UV Resistant For 1 DE Fixture For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 90000223)	24.16	
23 05 66 00-0071 EA DE Wiring Kit For Up To 65" (DE Bank Install) For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 90000603)	51.24	
23 05 66 00-0072 EA Cleaning Kit For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 90000100)	24.26	
23 05 66 00-0073 EA 480 To 220 Volt AC / 180 VA Step-Down Transformer For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 90000503)	97.79	
23 05 66 00-0074 EA Interlock Switch (16 Amps At 125 Volt, 10 Amperes At 250 Volt Maximum Ampacity) For Ultraviolet HVAC Microbial Control Tube (Steril-Aire 90000120)	102.90	
23 05 66 00-0075 Ultraviolet Duct Disinfection Unit (eLEDLights) (23 05 66)		
23 05 66 00-0076 EA Two 12" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V12-P1)	1,432.37	113.77
23 05 66 00-0077 EA Two 18" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V18-P1)	1,602.53	119.92
23 05 66 00-0078 EA Two 24" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V24-P1)	1,662.53	129.14
23 05 66 00-0079 EA Two 30" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V30-P1)	1,739.14	138.36
23 05 66 00-0080 EA Two 36" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V36-P1)	1,790.83	147.59
23 05 66 00-0081 EA Two 48" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD2L120V48-P1)	2,160.43	153.73
23 05 66 00-0082 EA Four 18" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD4L120V18-P1)	2,165.90	119.92
23 05 66 00-0083 EA Four 24" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD4L120V24-P1)	2,250.82	129.14
23 05 66 00-0084 EA Four 30" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD4L120V30-P1)	2,601.64	138.36
23 05 66 00-0085 EA Four 36" Lamps, Duct Mounted, UVC Air Duct Disinfection Unit (eLEDLights UVAD4L120V36-P1)	2,703.18	147.59
23 05 66 00-0086 Ultraviolet Germicidal Airborne Duct System (Fresh-Aire UV) (23 05 66)		
Note: Includes 2 Year Warranty		
23 05 66 00-0087 EA Two 18" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-218D-HO)	1,033.83	119.92
23 05 66 00-0088 EA Four 18" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-218Q-HO)	1,737.83	119.92
23 05 66 00-0089 EA Six 18" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-218H-HO)	2,442.77	119.92
23 05 66 00-0090 EA Two 24" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-224D-HO)	1,063.66	129.14
23 05 66 00-0091 EA Four 24" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-224Q-HO)	1,777.12	129.14
23 05 66 00-0092 EA Six 24" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-224H-HO)	2,491.54	129.14
23 05 66 00-0093 EA Two 32" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-232D-HO)	1,091.58	138.36
23 05 66 00-0094 EA Four 32" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-232Q-HO)	1,816.42	138.36
23 05 66 00-0095 EA Six 32" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-232H-HO)	2,540.31	138.36
23 05 66 00-0096 EA Two 46" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-246D-HO)	1,208.55	153.73
23 05 66 00-0097 EA Four 46" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-246Q-HO)	2,002.56	153.73
23 05 66 00-0098 EA Six 46" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-246H-HO)	2,796.56	153.73
23 05 66 00-0099 EA Two 60" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-260D-HO)	1,412.69	169.11
23 05 66 00-0100 EA Four 60" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-260Q-HO)	2,381.04	169.11
23 05 66 00-0101 EA Six 60" Lamps, Duct Mounted, High Output Airborne Disinfection System (Fresh-Aire UV TUVV-ADS-260H-HO)	3,348.44	169.11
23 05 93 Testing, Adjusting, and Balancing for HVAC (23 05)		
Note: Includes all necessary testing, startup, and checkout. Use these tasks for testing, startup, and checkout of existing systems or for third party testing and report when required.		
23 05 93 00-0001 Heating And Ventilating Equipment (23 05 93)		
23 05 93 00-0002 EA Balancing Centrifugal Fans.....	474.01	
For Testing Of Unit Without Balancing, Deduct	-237.01	
23 05 93 00-0003 EA Balancing Heating And Ventilating Units	592.27	
For Testing Of Unit Without Balancing, Deduct	-296.14	
23 05 93 00-0004 EA Balancing In Line Fan	533.25	
For Testing Of Unit Without Balancing, Deduct	-266.63	
23 05 93 00-0005 EA Balancing Propeller And Wall Fan	118.50	
For Testing Of Unit Without Balancing, Deduct	-59.25	
23 05 93 00-0006 EA Balancing Roof Exhaust Fan	355.48	
For Testing Of Unit Without Balancing, Deduct	-177.74	
23 05 93 00-0007 EA Balancing Wall Fan	88.85	
For Testing Of Unit Without Balancing, Deduct	-44.43	
23 05 93 00-0008 EA Balancing Fan Section Exhaust.....	473.24	
For Testing Of Unit Without Balancing, Deduct	-236.62	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 93 Testing, Adjusting, and Balancing for HVAC**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 93 00-0009 Air Conditioning Equipment (23 05 93)		
23 05 93 00-0010 EA Balancing Constant Volume Air Handling Unit.....	821.31	
For Testing Of Unit Without Balancing, Deduct	-410.66	
23 05 93 00-0011 EA Balancing Package A/C Unit.....	307.99	
For Testing Of Unit Without Balancing, Deduct	-154.00	
23 05 93 00-0012 EA Balancing Rooftop Heat And Cool Unit.....	410.66	
For Testing Of Unit Without Balancing, Deduct	-205.33	
23 05 93 00-0013 EA Balancing Variable Volume Air Handling Unit.....	1,437.28	
For Testing Of Unit Without Balancing, Deduct	-718.64	
23 05 93 00-0014 Registers, Diffusers, Terminal Air Units And Dampers (23 05 93)		
23 05 93 00-0015 EA Balancing HVAC Duct System, Ceiling Height To 12' Supply, Return, Exhaust, Register And Diffuser.....	88.87	
For Testing Of Unit Without Balancing, Deduct	-44.44	
23 05 93 00-0016 EA Balancing HVAC Duct System, Ceiling Height >12' Supply, Return, Exhaust, Register And Diffuser.....	148.13	
For Testing Of Unit Without Balancing, Deduct	-74.07	
23 05 93 00-0017 EA Balancing HVAC Duct System, Floor Height Supply, Return, Exhaust, Register And Diffuser.....	77.02	
For Testing Of Unit Without Balancing, Deduct	-38.51	
23 05 93 00-0018 EA Balance Variable Air Volume Box.....	83.45	
For Testing Of Unit Without Balancing, Deduct	-41.73	
23 05 93 00-0019 EA Balance Constant Volume Box.....	83.45	
For Testing Of Unit Without Balancing, Deduct	-41.73	
23 05 93 00-0020 EA Balance Fan Powered Box.....	94.80	
For Testing Of Unit Without Balancing, Deduct	-47.40	
23 05 93 00-0021 EA Balance Lab Fume Hood.....	385.14	
For Testing Of Unit Without Balancing, Deduct	-192.57	
23 05 93 00-0022 EA Balance General Hood.....	296.25	
For Testing Of Unit Without Balancing, Deduct	-148.13	
23 05 93 00-0023 EA Balance Induction Unit.....	177.76	
For Testing Of Unit Without Balancing, Deduct	-88.88	
23 05 93 00-0024 EA Balance Moduline - Master.....	71.08	
For Testing Of Unit Without Balancing, Deduct	-35.54	
23 05 93 00-0025 EA Balance Moduline - Slave.....	35.55	
For Testing Of Unit Without Balancing, Deduct	-17.78	
23 05 93 00-0026 EA Balance Dampers.....	33.01	
For Testing Of Unit Without Balancing, Deduct	-16.51	
23 05 93 00-0027 EA Balance Regenerators.....	473.24	
For Testing Of Unit Without Balancing, Deduct	-236.62	
23 05 93 00-0028 Water Balancing Of Components (23 05 93)		
23 05 93 00-0029 EA Water Balance, Air Cool Condenser.....	564.70	
For Testing Of Unit Without Balancing, Deduct	-282.35	
23 05 93 00-0030 EA Water Balance, Cabinet Heater.....	71.87	
For Testing Of Unit Without Balancing, Deduct	-35.94	
23 05 93 00-0031 EA Water Balance, Chiller, Air Cooled.....	615.93	
For Testing Of Unit Without Balancing, Deduct	-307.97	
23 05 93 00-0032 EA Water Balance, Chiller, Water Cooled.....	821.31	
For Testing Of Unit Without Balancing, Deduct	-410.66	
23 05 93 00-0033 EA Water Balance, Cooling Tower.....	410.66	
For Testing Of Unit Without Balancing, Deduct	-205.33	
23 05 93 00-0034 EA Water Balance, Fan Coil And Vent.....	102.73	
For Testing Of Unit Without Balancing, Deduct	-51.37	
23 05 93 00-0035 EA Water Balance, Fin Tube And Radiant Panel.....	102.66	
For Testing Of Unit Without Balancing, Deduct	-51.33	
23 05 93 00-0036 EA Water Balance, Main And Duct Re-Heat Coil.....	112.93	
For Testing Of Unit Without Balancing, Deduct	-56.47	
23 05 93 00-0037 EA Water Balance, Pumps.....	308.01	
For Testing Of Unit Without Balancing, Deduct	-154.01	
23 05 93 00-0038 EA Water Balance, Unit Heater.....	71.87	
For Testing Of Unit Without Balancing, Deduct	-35.94	
23 05 93 00-0039 EA Water Balancing, Converter.....	308.12	
For Testing Of Unit Without Balancing, Deduct	-154.06	
23 05 93 00-0040 EA Water Balancing, Cocks And Valves.....	51.32	
For Testing Of Unit Without Balancing, Deduct	-25.66	
23 05 93 00-0041 EA Water Balance, Convactor.....	61.59	
For Testing Of Unit Without Balancing, Deduct	-30.80	
23 05 93 00-0042 EA Water Balancing, Backflow Preventer Or Reduced Pressure Zone Valves.....	77.00	
For Testing Of Unit Without Balancing, Deduct	-38.50	
23 05 93 00-0043 EA Water Balance, Boiler, Up To 500 MBH.....	667.31	
For Testing Of Unit Without Balancing, Deduct	-333.66	
23 05 93 00-0044 EA >500 To 1,000 MBH, Water Balance, Boiler.....	1,231.96	
For Testing Of Unit Without Balancing, Deduct	-615.98	
23 05 93 00-0045 EA >1,000 MBH, Water Balance, Boiler.....	2,258.59	
For Testing Of Unit Without Balancing, Deduct	-1,129.30	
23 05 93 00-0046 Non-Destructive Testing (23 05 93)		
23 05 93 00-0047 X-Ray Welds, Non-Destructive Testing (23 05 93 00-0046)		
23 05 93 00-0048 Minimum Charge For X-Ray Welds (23 05 93 00-0047)		



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 93 00-0049 EA X-Ray Welds Minimum Set-Up Charge	874.47	
Note: For projects where the total charges are less than the minimum set-up charge, use this task exclusively. This task should not be used in conjunction with any other tasks in this section.		
23 05 93 00-0050 Piping, X-Ray Welds, Non-Destructive Testing (23 05 93 00-0047)		
23 05 93 00-0051 EA Up To 3/4" Piping, X-Ray Welds, Non-Destructive Testing	86.76	
23 05 93 00-0052 EA 1" Piping, X-Ray Welds, Non-Destructive Testing	98.63	
23 05 93 00-0053 EA 1-1/4" - 1-1/2" Piping, X-Ray Welds, Non-Destructive Testing	110.50	
23 05 93 00-0054 EA 2" Piping, X-Ray Welds, Non-Destructive Testing	116.82	
23 05 93 00-0055 EA 3" Piping, X-Ray Welds, Non-Destructive Testing	123.11	
23 05 93 00-0056 EA 4" Piping, X-Ray Welds, Non-Destructive Testing	130.14	
23 05 93 00-0057 EA 6" Piping, X-Ray Welds, Non-Destructive Testing	142.73	
23 05 93 00-0058 EA 8" Piping, X-Ray Welds, Non-Destructive Testing	155.34	
23 05 93 00-0059 EA 10" Piping, X-Ray Welds, Non-Destructive Testing	162.37	
23 05 93 00-0060 EA 12" Piping, X-Ray Welds, Non-Destructive Testing	169.40	
23 05 93 00-0061 Liquid Penetration Of Welds, Non-Destructive Testing (23 05 93 00-0046)		
23 05 93 00-0062 Piping, Liquid Penetration Of Welds, Non-Destructive Testing (23 05 93 00-0061)		
23 05 93 00-0063 EA Up To 3/4" Piping, Liquid Penetration Of Welds, Non-Destructive Testing	116.16	
23 05 93 00-0064 EA 1" Piping, Liquid Penetration Of Welds, Non-Destructive Testing	121.74	
23 05 93 00-0065 EA 1-1/4" - 1-1/2" Piping, Liquid Penetration Of Welds, Non-Destructive Testing	127.31	
23 05 93 00-0066 EA 2" Piping, Liquid Penetration Of Welds, Non-Destructive Testing	130.09	
23 05 93 00-0067 EA 3" Piping, Liquid Penetration Of Welds, Non-Destructive Testing	134.28	
23 05 93 00-0068 EA 4" Piping, Liquid Penetration Of Welds, Non-Destructive Testing	138.46	
23 05 93 00-0069 EA 6" Piping, Liquid Penetration Of Welds, Non-Destructive Testing	146.82	
23 05 93 00-0070 EA 8" Piping, Liquid Penetration Of Welds, Non-Destructive Testing	155.17	
23 05 93 00-0071 EA 10" Piping, Liquid Penetration Of Welds, Non-Destructive Testing	163.54	
23 05 93 00-0072 EA 12" Piping, Liquid Penetration Of Welds, Non-Destructive Testing	171.90	
23 05 93 00-0073 Hydrostatic Testing (23 05 93 00-0046)		
Note: Includes flushing and restoring of system.		
23 05 93 00-0074 Piping, Hydrostatic Testing (23 05 93 00-0073)		
23 05 93 00-0075 EA Up To 100', Up To 1-1/2" Piping, Hydrostatic Testing	733.33	
23 05 93 00-0076 EA >100' To 250', Up To 1-1/2" Piping, Hydrostatic Testing	1,047.60	
23 05 93 00-0077 EA >250' To 500', Up To 1-1/2" Piping, Hydrostatic Testing	1,255.23	
23 05 93 00-0078 EA >500' To 1,000', Up To 1-1/2" Piping, Hydrostatic Testing	1,671.98	
23 05 93 00-0079 EA >1,000' To 2,000', Up To 1-1/2" Piping, Hydrostatic Testing	2,533.30	
23 05 93 00-0080 EA Up To 100', >1-1/2" To 4" Piping, Hydrostatic Testing	975.03	
23 05 93 00-0081 EA >100' To 250', >1-1/2" To 4" Piping, Hydrostatic Testing	1,393.31	
23 05 93 00-0082 EA >250' To 500', >1-1/2" To 4" Piping, Hydrostatic Testing	1,658.71	
23 05 93 00-0083 EA >500' To 1,000', >1-1/2" To 4" Piping, Hydrostatic Testing	2,173.55	
23 05 93 00-0084 EA >1,000' To 2,000', >1-1/2" To 4" Piping, Hydrostatic Testing	3,288.21	
23 05 93 00-0085 EA Up To 100', >4" To 10" Piping, Hydrostatic Testing	1,270.70	
23 05 93 00-0086 EA >100' To 250', >4" To 10" Piping, Hydrostatic Testing	1,811.31	
23 05 93 00-0087 EA >250' To 500', >4" To 10" Piping, Hydrostatic Testing	1,911.06	
23 05 93 00-0088 EA >500' To 1,000', >4" To 10" Piping, Hydrostatic Testing	2,503.64	
23 05 93 00-0089 EA >1,000' To 2,000', >4" To 10" Piping, Hydrostatic Testing	3,787.53	
23 05 93 00-0090 EA Up To 100', >10" To 14" Piping, Hydrostatic Testing	1,649.69	
23 05 93 00-0091 EA >100' To 250', >10" To 14" Piping, Hydrostatic Testing	2,351.91	
23 05 93 00-0092 EA >250' To 500', >10" To 14" Piping, Hydrostatic Testing	2,484.86	
23 05 93 00-0093 EA >500' To 1,000', >10" To 14" Piping, Hydrostatic Testing	3,259.16	
23 05 93 00-0094 EA >1,000' To 2,000', >10" To 14" Piping, Hydrostatic Testing	4,938.13	
23 05 93 00-0095 Pneumatic Testing (23 05 93 00-0046)		
Note: Includes soaping joints flushing and restoring of system. Can be used for gas or smoke test.		
23 05 93 00-0096 Piping, Pneumatic Testing (23 05 93 00-0095)		
23 05 93 00-0097 EA Up To 100', Up To 1-1/2" Piping, Pneumatic Testing	834.49	
Note: Includes soaping joints.		
23 05 93 00-0098 EA >100' To 250', Up To 1-1/2" Piping, Pneumatic Testing	1,190.50	
Note: Includes soaping joints.		
23 05 93 00-0099 EA >250' To 500', Up To 1-1/2" Piping, Pneumatic Testing	1,286.60	
Note: Includes soaping joints.		
23 05 93 00-0100 EA >500' To 1,000', Up To 1-1/2" Piping, Pneumatic Testing	1,648.73	
Note: Includes soaping joints.		
23 05 93 00-0101 EA >1,000' To 2,000', Up To 1-1/2" Piping, Pneumatic Testing	2,579.85	
Note: Includes soaping joints.		
23 05 93 00-0102 EA Up To 100', >1-1/2" To 4" Piping, Pneumatic Testing	1,088.86	
Note: Includes soaping joints.		
23 05 93 00-0103 EA >100' To 250', >1-1/2" To 4" Piping, Pneumatic Testing	1,545.86	
Note: Includes soaping joints.		
23 05 93 00-0104 EA >250' To 500', >1-1/2" To 4" Piping, Pneumatic Testing	1,672.41	
Note: Includes soaping joints.		
23 05 93 00-0105 EA >500' To 1,000', >1-1/2" To 4" Piping, Pneumatic Testing	2,143.67	
Note: Includes soaping joints.		
23 05 93 00-0106 EA >1,000' To 2,000', >1-1/2" To 4" Piping, Pneumatic Testing	3,353.09	
Note: Includes soaping joints.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 05 Common Work Results for HVAC****23 05 93 Testing, Adjusting, and Balancing for HVAC**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 05 93 00-0107	EA	Up To 100', >4" To 10" Piping, Pneumatic Testing Note: Includes soaping joints.	1,311.42	
23 05 93 00-0108	EA	>100' To 250', >4" To 10" Piping, Pneumatic Testing Note: Includes soaping joints.	1,850.41	
23 05 93 00-0109	EA	>250' To 500', >4" To 10" Piping, Pneumatic Testing Note: Includes soaping joints.	2,093.77	
23 05 93 00-0110	EA	>500' To 1,000', >4" To 10" Piping, Pneumatic Testing Note: Includes soaping joints.	2,676.48	
23 05 93 00-0111	EA	>1,000' To 2,000', >4" To 10" Piping, Pneumatic Testing Note: Includes soaping joints.	4,192.52	
23 05 93 00-0112	EA	Up To 100', >10" To 14" Piping, Pneumatic Testing Note: Includes soaping joints.	1,707.67	
23 05 93 00-0113	EA	>100' To 250', >10" To 14" Piping, Pneumatic Testing Note: Includes soaping joints.	2,405.77	
23 05 93 00-0114	EA	>250' To 500', >10" To 14" Piping, Pneumatic Testing Note: Includes soaping joints.	2,722.89	
23 05 93 00-0115	EA	>500' To 1,000', >10" To 14" Piping, Pneumatic Testing Note: Includes soaping joints.	3,480.43	
23 05 93 00-0116	EA	>1,000' To 2,000', >10" To 14" Piping, Pneumatic Testing Note: Includes soaping joints.	5,459.69	
23 05 93 00-0117		EPA Testing Of Sludge (23 05 93)		
23 05 93 00-0118	EA	Flashpoint And Lead Test For Lead.....	1,019.08	
23 05 93 00-0119	EA	Air Test/Combustion Gas Level.....	97.98	
23 05 93 00-0120	EA	Toxicity Test For Heavy Metals.....	1,565.01	
23 05 93 00-0121	EA	Aboveground Tank Water Settlement Test Including Water.....	1,186.46	

23 07 HVAC Insulation (23)**23 07 13 Duct Insulation** (23 07)

Note: Based on SF surface area of duct to receive insulation.

23 07 13 00-0001 FSK Fiber Glass Duct Wrap Insulation (23 07 13)

Note: Foil-scrim kraft (FSK) facing lapped and joints sealed vapor tight.

23 07 13 00-0002 Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation (23 07 13 00-0001)

23 07 13 00-0003	SF	1" Thick, Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation	3.79	2.16
		For Plain Blanket, With No Facing, Deduct	-0.37	
		For Work In Restricted Working Space, Add	0.86	
23 07 13 00-0004	SF	1-1/2" Thick, Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation	4.41	2.16
		For Plain Blanket, With No Facing, Deduct	-0.42	
		For Work In Restricted Working Space, Add	1.01	
23 07 13 00-0005	SF	2" Thick, Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation	4.98	3.22
		For Plain Blanket, With No Facing, Deduct	-0.46	
		For Work In Restricted Working Space, Add	1.15	
23 07 13 00-0006	SF	3" Thick, Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation	5.91	3.77
		For Plain Blanket, With No Facing, Deduct	-0.57	
		For Work In Restricted Working Space, Add	1.35	
23 07 13 00-0007	SF	4" Thick, Type 75 (0.75 LB/CF) FSK Fiber Glass Duct Wrap Insulation	7.08	4.09
		For Plain Blanket, With No Facing, Deduct	-0.90	
		For Work In Restricted Working Space, Add	1.45	

23 07 13 00-0008 Type 100 (1.0 LB/CF) FSK Fiber Glass Duct Wrap Insulation (23 07 13 00-0001)

23 07 13 00-0009	SF	1" Thick, Type 100 (1.0 LB/CF) FSK Fiber Glass Duct Wrap Insulation	4.64	3.22
		For Plain Blanket, With No Facing, Deduct	-0.42	
		For Work In Restricted Working Space, Add	1.08	
23 07 13 00-0010	SF	1-1/2" Thick, Type 100 (1.0 LB/CF) FSK Fiber Glass Duct Wrap Insulation	5.42	3.77
		For Plain Blanket, With No Facing, Deduct	-0.51	
		For Work In Restricted Working Space, Add	1.24	
23 07 13 00-0011	SF	2" Thick, Type 100 (1.0 LB/CF) Fiber Glass FSK Duct Wrap Insulation	6.40	4.30
		For Plain Blanket, With No Facing, Deduct	-0.60	
		For Work In Restricted Working Space, Add	1.47	

23 07 13 00-0012 Type 150 (1.5 LB/CF) FSK Fiber Glass Duct Wrap Insulation (23 07 13 00-0001)

23 07 13 00-0013	SF	1" Thick, Type 150 (1.5 LB/CF) FSK Fiber Glass Duct Wrap Insulation	6.10	4.30
		For Plain Blanket, With No Facing, Deduct	-0.71	
		For Work In Restricted Working Space, Add	1.30	
23 07 13 00-0014	SF	1-1/2" Thick, Type 150 (1.5 LB/CF) FSK Fiber Glass Duct Wrap Insulation	8.04	4.84
		For Plain Blanket, With No Facing, Deduct	-1.24	
		For Work In Restricted Working Space, Add	1.48	
23 07 13 00-0015	SF	2" Thick, Type 150 (1.5 LB/CF) FSK Fiber Glass Duct Wrap Insulation	9.39	5.38
		For Plain Blanket, With No Facing, Deduct	-1.46	
		For Work In Restricted Working Space, Add	1.72	

23 07 13 00-0016 3 LB/CF FSK Rigid Fiber Glass Board Insulation (23 07 13)

Note: Foil-scrim kraft (FSK) facing, sealed vapor tight and attached to ducts with mechanical fasteners.



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Insulation 23 07

Duct Insulation 23 07 13

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 07 13 00-0017 SF 1" Thick, 3 LB/CF FSK Rigid Fiber Glass Board Insulation..... For 8 Oz Canvas On Duct, Applied Over Deadening Felt And Finished, Add For Finishing Cement 1/2" Thick Over 1" Wire Mesh, Add For Non-Metallic Weatherproof Paste, 2 LB, Add For Work In Restricted Working Space, Add	10.20 23.38 17.36 14.30 2.87	5.81
23 07 13 00-0018 SF 1-1/2" Thick, 3 LB/CF FSK Rigid Fiber Glass Board Insulation For 8 Oz Canvas On Duct, Applied Over Deadening Felt And Finished, Add For Finishing Cement 1/2" Thick Over 1" Wire Mesh, Add For Non-Metallic Weatherproof Paste, 2 LB, Add For Work In Restricted Working Space, Add	13.14 28.95 21.86 17.97 3.49	7.07
23 07 13 00-0019 SF 2" Thick, 3 LB/CF FSK Rigid Fiber Glass Board Insulation..... For 8 Oz Canvas On Duct, Applied Over Deadening Felt And Finished, Add For Finishing Cement 1/2" Thick Over 1" Wire Mesh, Add For Non-Metallic Weatherproof Paste, 2 LB, Add For Work In Restricted Working Space, Add	16.41 35.32 26.93 22.00 4.21	8.54
23 07 13 00-0020 4.253 LB/CF FSK Rigid Fiber Glass Board Insulation (23 07 13) Note: Foil-scrim kraft (FSK) facing, sealed vapor tight and attached to ducts with mechanical fastener.		
23 07 13 00-0021 SF 1" Thick, 4.253 LB/CF FSK Rigid Fiber Glass Board Insulation..... For Work In Restricted Working Space, Add	11.47 3.15	6.40
23 07 13 00-0022 SF 1-1/2" Thick, 4.253 LB/CF FSK Rigid Fiber Glass Board Insulation For Work In Restricted Working Space, Add	14.93 3.83	7.78
23 07 13 00-0023 SF 2" Thick, 4.253 LB/CF FSK Rigid Fiber Glass Board Insulation..... For Work In Restricted Working Space, Add	19.21 4.63	9.39
23 07 13 00-0024 Sheet Flexible Elastomeric Insulation (23 07 13)		
23 07 13 00-0025 SF 3/8" Thick, Sheet Flexible Elastomeric Insulation.....	8.89	2.90
23 07 13 00-0026 SF 1/2" Thick, Sheet Flexible Elastomeric Insulation.....	9.51	3.06
23 07 13 00-0027 SF 3/4" Thick, Sheet Flexible Elastomeric Insulation.....	12.52	3.22
23 07 13 00-0028 SF 1" Thick, Sheet Flexible Elastomeric Insulation.....	14.45	3.38
23 07 13 00-0029 SF 1-1/2" Thick, Sheet Flexible Elastomeric Insulation.....	20.08	3.71
23 07 13 00-0030 SF 2" Thick, Sheet Flexible Elastomeric Insulation.....	23.77	4.03
23 07 13 00-0031 Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation (23 07 13) Note: Jacketing is a 3-ply laminate consisting of a PVC core, 0.012" thick aluminum foil jacketing and UV-protective Mylar film.		
23 07 13 00-0032 SF 1/2" Thick, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	13.25	3.06
23 07 13 00-0033 SF 3/4" Thick, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	14.58	3.22
23 07 13 00-0034 SF 1" Thick, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	16.25	3.38
23 07 13 00-0035 SF 1-1/2" Thick, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	25.46	3.71
23 07 13 00-0036 SF 2" Thick, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	30.19	4.03
23 07 13 00-0037 Adhesive Backed, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation (23 07 13) Note: Jacketing is a 3-ply laminate consisting of a PVC core, 0.012" thick aluminum foil jacketing and UV-protective Mylar film.		
23 07 13 00-0038 SF 1/2" Thick, Adhesive Backed, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	15.91	3.06
23 07 13 00-0039 SF 3/4" Thick, Adhesive Backed, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	17.24	3.22
23 07 13 00-0040 SF 1" Thick, Adhesive Backed, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	19.38	3.38
23 07 13 00-0041 SF 1-1/2" Thick, Adhesive Backed, Aluminum Foil/Mylar Film, Multi-Layer Sheet Elastomeric Insulation.....	28.55	3.71
23 07 16 HVAC Equipment Insulation (23 07)		
23 07 16 00-0001 Calcium Silicate Block Insulation (23 07 16)		
23 07 16 00-0002 SF 1" Thick, Calcium Silicate Block Insulation For Work In Restricted Working Space, Add	17.41 4.19	6.98
23 07 16 00-0003 SF 1-1/2" Thick, Calcium Silicate Block Insulation For Work In Restricted Working Space, Add	20.88 4.72	7.86
23 07 16 00-0004 SF 2" Thick, Calcium Silicate Block Insulation For Work In Restricted Working Space, Add	25.08 5.46	9.06
23 07 16 00-0005 SF 2-1/2" Thick, Calcium Silicate Block Insulation For Work In Restricted Working Space, Add	29.90 6.39	10.64
23 07 16 00-0006 SF 3" Thick, Calcium Silicate Block Insulation For Work In Restricted Working Space, Add	36.52 7.86	13.10
23 07 19 HVAC Piping Insulation (23 07) See CSI section 22 07 19 00-0000 for pipe insulation.		
23 07 19 00-0001 Calcium Silicate Pipe Insulation (23 07 19) Note: Includes adhesive. Excludes fittings (a location requiring purchase of an insulation fitting or cutting and fitting straight sections, excludes couplings, plugs, etc.). For fittings/valves up to 3" add 2 LF for each fitting/valve or 3 LF for each flanged/grooved joint. For fittings/valves >3" add 3 LF for each fitting/valve or 4 LF for each flanged/grooved joint. See CSI section 22 07 19 00-0594 for protective jacketing.		
23 07 19 00-0002 1" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)		
23 07 19 00-0003 LF 1/2" Diameter Pipe, 1" Thick Calcium Silicate Insulation For Work In Restricted Working Space, Add	13.41 2.65	3.54

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 07 HVAC Insulation****23 07 19 HVAC Piping Insulation**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 07 19 00-0004 LF 3/4" Diameter Pipe, 1" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	13.41 2.65	3.54
23 07 19 00-0005 LF 1" Diameter Pipe, 1" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	13.34 2.69	3.59
23 07 19 00-0006 LF 1-1/4" Diameter Pipe, 1" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	13.54 2.73	3.64
23 07 19 00-0007 LF 1-1/2" Diameter Pipe, 1" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	13.71 2.77	3.69
23 07 19 00-0008 LF 2" Diameter Pipe, 1" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	14.65 2.84	3.79
23 07 19 00-0009 LF 2-1/2" Diameter Pipe, 1" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	15.33 2.96	3.95
23 07 19 00-0010 LF 3" Diameter Pipe, 1" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	15.99 3.03	4.05
23 07 19 00-0011 LF 4" Diameter Pipe, 1" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	18.23 3.26	4.35
23 07 19 00-0012 LF 6" Diameter Pipe, 1" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	20.31 3.68	4.92
23 07 19 00-0013 1-1/2" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)		
23 07 19 00-0014 LF 1/2" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	14.03 2.76	3.69
23 07 19 00-0015 LF 3/4" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	14.11 2.76	3.69
23 07 19 00-0016 LF 1" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	15.10 2.93	3.90
23 07 19 00-0017 LF 1-1/4" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	15.70 2.98	3.98
23 07 19 00-0018 LF 1-1/2" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	16.31 3.04	4.05
23 07 19 00-0019 LF 2" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	17.50 3.20	4.27
23 07 19 00-0020 LF 2-1/2" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	18.31 3.26	4.34
23 07 19 00-0021 LF 3" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	19.01 3.37	4.49
23 07 19 00-0022 LF 4" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	21.15 3.64	4.86
23 07 19 00-0023 LF 6" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	24.54 4.25	5.67
23 07 19 00-0024 LF 8" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	28.70 4.49	5.98
23 07 19 00-0025 LF 10" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	36.09 5.37	7.16
23 07 19 00-0026 LF 12" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	42.42 6.26	8.34
23 07 19 00-0027 LF 14" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	47.23 6.86	9.15
23 07 19 00-0028 LF 16" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	56.38 8.73	11.64
23 07 19 00-0029 LF 18" Diameter Pipe, 1-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	60.71 9.16	12.22
23 07 19 00-0030 2" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)		
23 07 19 00-0031 LF 1/2" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	17.73 3.03	4.05
23 07 19 00-0032 LF 3/4" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	18.14 3.03	4.05
23 07 19 00-0033 LF 1" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	18.71 3.08	4.10
23 07 19 00-0034 LF 1-1/4" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	19.45 3.11	4.15
23 07 19 00-0035 LF 1-1/2" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	19.96 3.15	4.20
23 07 19 00-0036 LF 2" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	20.81 3.26	4.35
23 07 19 00-0037 LF 2-1/2" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	23.22 3.38	4.50
23 07 19 00-0038 LF 3" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	23.65 3.50	4.66
23 07 19 00-0039 LF 4" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	26.16 3.69	4.92
23 07 19 00-0040 LF 6" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	32.05 4.43	5.90
23 07 19 00-0041 LF 8" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	36.17 4.67	6.23
23 07 19 00-0042 LF 10" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	44.51 5.59	7.45
23 07 19 00-0043 LF 12" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	51.07 6.69	8.93
23 07 19 00-0044 LF 14" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	62.75 9.34	12.45



Heating, Ventilating, and Air-Conditioning (HVAC)

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HVAC Insulation 23 07

HVAC Piping Insulation 23 07 19

23

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 07 19 00-0045	LF	16" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	65.99 9.34	12.45
23 07 19 00-0046	LF	18" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	70.71 9.80	13.08
23 07 19 00-0047	LF	20" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	84.19 11.21	14.94
23 07 19 00-0048	LF	24" Diameter Pipe, 2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	98.13 13.54	18.05
23 07 19 00-0049 2-1/2" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)				
23 07 19 00-0050	LF	1/2" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	21.25 3.50	4.66
23 07 19 00-0051	LF	3/4" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	21.68 3.50	4.66
23 07 19 00-0052	LF	1" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	22.07 3.55	4.74
23 07 19 00-0053	LF	1-1/4" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	22.28 3.59	4.78
23 07 19 00-0054	LF	1-1/2" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	22.84 3.61	4.82
23 07 19 00-0055	LF	2" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	23.80 3.76	5.02
23 07 19 00-0056	LF	2-1/2" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	26.70 3.89	5.19
23 07 19 00-0057	LF	3" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	27.16 4.03	5.37
23 07 19 00-0058	LF	4" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	31.29 4.25	5.66
23 07 19 00-0059	LF	6" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	38.89 4.82	6.43
23 07 19 00-0060	LF	8" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	44.36 5.38	7.17
23 07 19 00-0061	LF	10" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	52.94 6.20	8.27
23 07 19 00-0062	LF	12" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	61.69 7.71	10.28
23 07 19 00-0063	LF	14" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	68.23 8.42	11.22
23 07 19 00-0064	LF	16" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	82.91 10.76	14.35
23 07 19 00-0065	LF	18" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	87.56 11.30	15.06
23 07 19 00-0066	LF	20" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	101.54 12.91	17.22
23 07 19 00-0067	LF	24" Diameter Pipe, 2-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	119.37 15.60	20.79
23 07 19 00-0068 3" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)				
23 07 19 00-0069	LF	1/2" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	26.72 3.87	5.17
23 07 19 00-0070	LF	3/4" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	26.82 3.87	5.17
23 07 19 00-0071	LF	1" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	27.06 3.92	5.22
23 07 19 00-0072	LF	1-1/4" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	27.35 3.94	5.25
23 07 19 00-0073	LF	1-1/2" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	27.60 3.98	5.31
23 07 19 00-0074	LF	2" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	28.54 4.13	5.51
23 07 19 00-0075	LF	2-1/2" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	31.62 4.27	5.69
23 07 19 00-0076	LF	3" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	32.27 4.43	5.90
23 07 19 00-0077	LF	4" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	37.95 4.67	6.23
23 07 19 00-0078	LF	6" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	44.97 5.30	7.07
23 07 19 00-0079	LF	8" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	52.22 5.91	7.88
23 07 19 00-0080	LF	10" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	61.99 6.82	9.10
23 07 19 00-0081	LF	12" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	71.69 8.48	11.30
23 07 19 00-0082	LF	14" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	79.55 9.26	12.34
23 07 19 00-0083	LF	16" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	93.23 11.83	15.78
23 07 19 00-0084	LF	18" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	100.49 12.42	16.56
23 07 19 00-0085	LF	20" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	117.61 14.21	18.94

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 07 HVAC Insulation****23 07 19 HVAC Piping Insulation**

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
23 07 19 00-0086	LF 24" Diameter Pipe, 3" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	139.17 17.16		22.88	
23 07 19 00-0087	3-1/2" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)				
23 07 19 00-0088	LF 1/2" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	33.96 4.25		5.66	
23 07 19 00-0089	LF 3/4" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	35.21 4.25		5.66	
23 07 19 00-0090	LF 1" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	35.30 4.27		5.69	
23 07 19 00-0091	LF 1-1/4" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	35.40 4.30		5.73	
23 07 19 00-0092	LF 1-1/2" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	36.50 4.36		5.80	
23 07 19 00-0093	LF 2" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	36.71 4.50		6.00	
23 07 19 00-0094	LF 2-1/2" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	42.00 4.66		6.22	
23 07 19 00-0095	LF 3" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	43.49 4.82		6.44	
23 07 19 00-0096	LF 4" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	49.49 5.10		6.80	
23 07 19 00-0097	LF 6" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	55.22 5.79		7.72	
23 07 19 00-0098	LF 8" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	67.17 6.45		8.59	
23 07 19 00-0099	LF 10" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	81.57 7.44		9.92	
23 07 19 00-0100	LF 12" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	98.79 9.25		12.33	
23 07 19 00-0101	LF 14" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	104.13 10.10		13.47	
23 07 19 00-0102	LF 16" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	121.58 12.91		17.21	
23 07 19 00-0103	LF 18" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	139.47 13.55		18.07	
23 07 19 00-0104	LF 20" Diameter Pipe, 3-1/2" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	150.64 15.50		20.67	
23 07 19 00-0105	4" Thick, Calcium Silicate Pipe Insulation (23 07 19 00-0001)				
23 07 19 00-0106	LF 1/2" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	42.33 4.72		6.29	
23 07 19 00-0107	LF 3/4" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	42.37 4.72		6.29	
23 07 19 00-0108	LF 1" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	42.64 4.80		6.40	
23 07 19 00-0109	LF 1-1/4" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	43.80 4.85		6.47	
23 07 19 00-0110	LF 1-1/2" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	46.36 5.00		6.67	
23 07 19 00-0111	LF 2" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	47.34 5.16		6.88	
23 07 19 00-0112	LF 2-1/2" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	51.64 5.24		6.98	
23 07 19 00-0113	LF 3" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	53.13 5.43		7.24	
23 07 19 00-0114	LF 4" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	60.26 5.73		7.65	
23 07 19 00-0115	LF 6" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	69.69 6.51		8.67	
23 07 19 00-0116	LF 8" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	82.96 7.25		9.67	
23 07 19 00-0117	LF 10" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	95.54 8.38		11.17	
23 07 19 00-0118	LF 12" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	108.91 10.41		13.87	
23 07 19 00-0119	LF 14" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	115.88 11.37		15.16	
23 07 19 00-0120	LF 16" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	137.37 14.54		19.38	
23 07 19 00-0121	LF 18" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	146.05 15.23		20.31	
23 07 19 00-0122	LF 20" Diameter Pipe, 4" Thick Calcium Silicate Insulation <i>For Work In Restricted Working Space, Add</i>	161.72 17.43		23.24	
23 07 19 00-0123	Weather-Protective Coating For Calcium Silicate Pipe Insulation (23 07 19 00-0001)				
23 07 19 00-0124	SF 1/4" Thick (Two 1/8" Coats), Weatherproof Coating Over Glass Cloth Mesh (Insulkote ET) <i>For Work In Restricted Working Space, Add</i>	5.69 1.00			

MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST**23 08 Commissioning of HVAC** ⁽²³⁾

See CSI section 23 05 93 00-0000 for testing and balancing.

23 09 Instrumentation and Control for HVAC ⁽²³⁾**23 09 23 Direct-Digital Control System for HVAC** ^(23 09)**23 09 23 11 Control Valves** ^(23 09 23)**23 09 23 11-0001 Valves With Actuator** ^(23 09 23 11)

23 09 23 11-0002	EA	1/2" 2-Way Bronze Globe Valve With Actuator (Belimo G215+NV24-MFT US)	816.86	14.38
23 09 23 11-0003	EA	3/4" 2-Way Bronze Globe Valve With Actuator (Belimo G220+NV24-MFT US)	842.17	19.39
23 09 23 11-0004	EA	1" 2-Way Bronze Globe Valve With Actuator (Belimo B225+NV24-MFT US)	920.43	23.47
23 09 23 11-0005	EA	1-1/4" 2-Way Bronze Globe Valve With Actuator (Belimo B232+NV24-MFT US)	1,002.02	29.72
23 09 23 11-0006	EA	1-1/2" 2-Way Bronze Globe Valve With Actuator (Belimo G240+NV24-MFT US)	1,141.15	34.30
23 09 23 11-0007	EA	2" 2-Way Bronze Globe Valve With Actuator (Belimo G250+NV24-MFT US)	1,288.68	40.53
23 09 23 11-0008	EA	2-1/2" 2-Way Bronze Globe Valve With Actuator (Belimo G665+GMX24-MFTX1)	2,407.08	81.07
23 09 23 11-0009	EA	3" 2-Way Bronze Globe Valve With Actuator (Belimo G680+GMX24-MFTX1)	2,605.43	94.86
23 09 23 11-0010	EA	4" 2-Way Bronze Globe Valve With Actuator (Belimo G6100C+GMX24-MFTX1)	3,510.27	139.33
23 09 23 11-0011	EA	5" 2-Way Bronze Globe Valve With Actuator (Belimo G6125C+GMX24-MFTX1)	5,165.44	201.36
23 09 23 11-0012	EA	6" 2-Way Bronze Globe Valve With Actuator (Belimo G6150C+GMX24-MFTX1)	5,721.55	222.93
23 09 23 11-0013	EA	1/2" 3-Way Bronze Globe Valve With Actuator (Belimo G315+NV24-MFT US)	875.28	21.57
23 09 23 11-0014	EA	3/4" 3-Way Bronze Globe Valve With Actuator (Belimo G320+NV24-MFT US)	898.29	29.08
23 09 23 11-0015	EA	1" 3-Way Bronze Globe Valve With Actuator (Belimo G325+NV24-MFT US)	971.04	35.20
23 09 23 11-0016	EA	1-1/4" 3-Way Bronze Globe Valve With Actuator (Belimo G332+NV24-MFT US)	1,073.26	44.59
23 09 23 11-0017	EA	1-1/2" 3-Way Bronze Globe Valve With Actuator (Belimo G340+NV24-MFT US)	1,381.90	51.45
23 09 23 11-0018	EA	2" 3-Way Bronze Globe Valve With Actuator (Belimo G350+NV24-MFT US)	1,530.81	60.80
23 09 23 11-0019	EA	2-1/2" 3-Way Bronze Globe Valve With Actuator (Belimo G765+GMX24-MFTX1)	2,695.67	121.60
23 09 23 11-0020	EA	3" 3-Way Bronze Globe Valve With Actuator (Belimo G780+GMX24-MFTX1)	2,958.07	142.30
23 09 23 11-0021	EA	4" 3-Way Bronze Globe Valve With Actuator (Belimo G7100+2"GMX24-MFTX1)	4,303.53	208.99
23 09 23 11-0022	EA	5" 3-Way Bronze Globe Valve With Actuator (Belimo G7125+2"GMX24-MFTX1)	6,242.76	302.03
23 09 23 11-0023	EA	6" 3-Way Bronze Globe Valve With Actuator (Belimo G7150+2"GMX24-MFTX1)	6,940.74	334.40
23 09 23 11-0024	EA	1/2" Two Way Brass Zone Valve With Actuator (Belimo ZONE215N-35+ZONE24NC)	132.80	14.38
23 09 23 11-0025	EA	3/4" Two Way Brass Zone Valve With Actuator (Belimo ZONE220N-50+ZONE24NC)	156.17	19.39
23 09 23 11-0026	EA	1" Two Way Brass Zone Valve With Actuator (Belimo ZONE225N-80+ZONE24NC)	196.93	23.47
23 09 23 11-0027	EA	1 1/2" Two Way Brass Zone Valve With Actuator (Belimo ZONE315N-35+ZONE24NC)	161.65	21.57
23 09 23 11-0028	EA	3/4" Two Way Brass Zone Valve With Actuator (Belimo ZONE320N-50+ZONE24NC)	188.18	29.08
23 09 23 11-0029	EA	1" Two Way Brass Zone Valve With Actuator (Belimo ZONE325N-80+ZONE24NC)	235.58	35.20
23 09 23 11-0030	EA	1/2" 2-Way Brass Ball Valve With Actuator (Belimo B215B+LRB24-3)	222.88	14.38
23 09 23 11-0031	EA	3/4" 2-Way Brass Ball Valve With Actuator (Belimo B220B+LRB24-3)	263.76	19.39
23 09 23 11-0032	EA	1" 2-Way Brass Ball Valve With Actuator (Belimo B225+LRB24-3)	299.74	23.47
23 09 23 11-0033	EA	1-1/4" 2-Way Brass Ball Valve With Actuator (Belimo B232+ARB24-3)	390.15	29.72
23 09 23 11-0034	EA	1-1/2" 2-Way Brass Ball Valve With Actuator (Belimo B240+ARB24-3)	402.87	34.30
23 09 23 11-0035	EA	2" 2-Way Brass Ball Valve With Actuator (Belimo B250+ARB24-3)	513.86	40.53
23 09 23 11-0036	EA	2-1/2" 2-Way Brass Ball Valve With Actuator (Belimo B265+ARB24-3)	1,105.06	81.07
23 09 23 11-0037	EA	3" 2-Way Brass Ball Valve With Actuator (Belimo B280+ARB24-3)	1,297.50	94.86
23 09 23 11-0038	EA	1/2" 3-Way Brass Ball Valve With Actuator (Belimo B315B+LRB24-3)	269.24	21.57
23 09 23 11-0039	EA	3/4" 3-Way Brass Ball Valve With Actuator (Belimo B320B+LRB24-3)	310.54	29.08
23 09 23 11-0040	EA	1" 3-Way Brass Ball Valve With Actuator (Belimo B325+LRB24-3)	401.26	35.20
23 09 23 11-0041	EA	1-1/4" 3-Way Brass Ball Valve With Actuator (Belimo B331+ARB24-3)	570.40	44.59
23 09 23 11-0042	EA	1-1/2" 3-Way Brass Ball Valve With Actuator (Belimo B341+ARB24-3)	600.43	51.45
23 09 23 11-0043	EA	2" 3-Way Brass Ball Valve With Actuator (Belimo B352+ARB24-3)	797.21	60.80
23 09 23 11-0044	EA	2" 2-Way Butterfly Valve With Actuator (Belimo F650HD+AMB24-3X1)	646.01	74.31
23 09 23 11-0045	EA	2-1/2" 2-Way Butterfly Valve With Actuator (Belimo F665HD+AMB24-3X1)	677.72	81.07
23 09 23 11-0046	EA	3" 2-Way Butterfly Valve With Actuator (Belimo F680HD+GMB24-3X1)	893.35	94.86
23 09 23 11-0047	EA	4" 2-Way Butterfly Valve With Actuator (Belimo F6100HD+2"GMB24-3X1)	1,361.09	159.24
23 09 23 11-0048	EA	5" 2-Way Butterfly Valve With Actuator (Belimo F6125HD+SY2-24)	2,764.56	201.36
23 09 23 11-0049	EA	6" 2-Way Butterfly Valve With Actuator (Belimo F6150HD+SY3-24)	2,914.53	222.93
23 09 23 11-0050	EA	8" 2-Way Butterfly Valve With Actuator (Belimo F6200HD+SY4-24)	3,974.54	254.78
23 09 23 11-0051	EA	10" 2-Way Butterfly Valve With Actuator (Belimo F6250HD+SY4-24)	4,876.52	312.11
23 09 23 11-0052	EA	12" 2-Way Butterfly Valve With Actuator (Belimo F6300HS+SY4-24)	6,028.23	378.31
23 09 23 11-0053	EA	14" 2-Way Butterfly Valve With Actuator (Belimo F6350HD+SY5-24)	6,693.43	445.86
23 09 23 11-0054	EA	16" 2-Way Butterfly Valve With Actuator (Belimo F6400HD+SY6-110)	8,872.67	490.45
23 09 23 11-0055	EA	18" 2-Way Butterfly Valve With Actuator (Belimo F6450HD+SY8-110)	10,763.83	544.84
23 09 23 11-0056	EA	2" 3-Way Butterfly Valve With Actuator (Belimo F750HD+AMB24-3X1)	1,199.13	111.47
23 09 23 11-0057	EA	2-1/2" 3-Way Butterfly Valve With Actuator (Belimo F765HD+GMB24-3X1)	1,414.59	121.60
23 09 23 11-0058	EA	3" 3-Way Butterfly Valve With Actuator (Belimo F780HD+2"GMB24-3X1)	1,748.01	142.30
23 09 23 11-0059	EA	4" 3-Way Butterfly Valve With Actuator (Belimo F7100HD+2"GMB24-3X1)	2,230.49	238.85
23 09 23 11-0060	EA	5" 3-Way Butterfly Valve With Actuator (Belimo F7125HD+SY3-24)	4,608.34	302.03
23 09 23 11-0061	EA	6" 3-Way Butterfly Valve With Actuator (Belimo F7150HD+SY3-24)	4,766.60	334.40
23 09 23 11-0062	EA	8" 3-Way Butterfly Valve With Actuator (Belimo F7200HD+SY4-24)	6,017.32	382.21
23 09 23 11-0063	EA	10" 3-Way Butterfly Valve With Actuator (Belimo F7250HD+SY4-24)	7,793.20	468.15
23 09 23 11-0064	EA	12" 3-Way Butterfly Valve With Actuator (Belimo F7300HD+SY5-24)	9,691.73	567.46
23 09 23 11-0065	EA	14" 3-Way Butterfly Valve With Actuator (Belimo F7350HD+SY6-110)	15,171.25	668.79
23 09 23 11-0066	EA	16" 3-Way Butterfly Valve With Actuator (Belimo F7400HD+SY7-110)	16,918.93	735.67
23 09 23 11-0067	EA	18" 3-Way Butterfly Valve With Actuator (Belimo F7450HD+SY8-110)	26,108.25	817.27

23 09 23 11-0068 Valve Actuators ^(23 09 23 11)

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 11-0069	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, Terminal Strip, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-3-T).....	441.07	92.09
23 09 23 11-0070	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, 95 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-3).....	448.13	92.09
23 09 23 11-0071	EA	24 Volt AC/DC Power Supply, 2-10 Volt DC Control Input, Terminal Strip, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-SR-T).....	565.69	92.09
23 09 23 11-0072	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, Auxiliary Switch, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-3-S).....	506.80	92.09
23 09 23 11-0073	EA	24 Volt AC/DC Power Supply, 2-10 Volt DC Control Input, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-SR).....	517.11	92.09
23 09 23 11-0074	EA	24 Volt AC/DC Power Supply, Proportional/Multi-Function Control Input, 150 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-MFT).....	584.80	92.09
23 09 23 11-0075	EA	24 Volt AC/DC Power Supply, On/Off Control Input, 2.5 Seconds Run Time, 35 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRQX24-1).....	725.13	92.09
23 09 23 11-0076	EA	24 Volt AC/DC Power Supply, 0-135 Ohms Control Input, 150 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX24-MFT95).....	741.40	92.09
23 09 23 11-0077	EA	24 Volt AC/DC Power Supply, Proportional/Multi-Function Control Input, 2.5 Seconds Run Time, 35 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRQX24-MFT).....	780.61	92.09
23 09 23 11-0078	EA	120 Volt AC Power Supply, On/Off/Floating Point Control Input, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX120-3).....	549.07	92.09
23 09 23 11-0079	EA	120 Volt AC Power Supply, 2-10 Volt DC Control Input, 90 Seconds Run Time, 45 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo LRX120-SR).....	631.36	92.09
23 09 23 11-0080	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, Terminal Strip, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-3-T).....	551.26	92.09
23 09 23 11-0081	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-3).....	561.59	92.09
23 09 23 11-0082	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARB24-3-5-14).....	565.46	92.09
23 09 23 11-0083	EA	24 Volt AC/DC Power Supply, On/Off/Floating Point Control Input, Auxiliary Switch, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-3-S).....	635.71	92.09
23 09 23 11-0084	EA	24 Volt AC/DC Power Supply, 2-10 Volt DC Control Input, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-SR-T).....	666.01	92.09
23 09 23 11-0085	EA	24 Volt AC/DC Power Supply, 2-10 Volt DC Control Input, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-SR).....	682.11	92.09
23 09 23 11-0086	EA	24 Volt AC/DC Power Supply, Proportional/Multi-Function Control Input, Variable Run Time (90 To 350 Seconds), 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-MFT).....	678.91	92.09
23 09 23 11-0087	EA	24 Volt AC/DC Power Supply, Phasecut Control Input, 95 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-PC).....	689.21	92.09
23 09 23 11-0088	EA	24 Volt AC/DC Power Supply, 0-135 Ohms Control Input, 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-MFT95).....	688.56	92.09
23 09 23 11-0089	EA	24 Volt AC/DC Power Supply, 2-10 Volt DC Control Input, NEMA 4X, 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-SR-T N4).....	755.41	92.09
23 09 23 11-0090	EA	24 Volt AC/DC Power Supply, Proportional/Multi-Function Control Input, NEMA 4X, Variable Run Time (75 To 350 Seconds), 160 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX24-MFT-T N4).....	924.49	92.09
23 09 23 11-0091	EA	100-240 Volt AC Power Supply, On/Off/Floating Point Control Input, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX120-3).....	600.90	92.09
23 09 23 11-0092	EA	100-240 Volt AC Power Supply, 2-10 Volt DC Control Input, 300, 150, Or 90 Seconds Run Time, 180 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo ARX120-SR).....	724.68	92.09
23 09 23 11-0093	EA	24 Volt AC/DC Power Supply, On/Off Control Input, 15 Seconds Run Time, 801 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY2-24).....	1,695.39	92.09
23 09 23 11-0094	EA	24 Volt AC/DC Power Supply, On/Off Control Input, 22 Seconds Run Time, 1,335 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY3-24).....	1,906.80	92.09
23 09 23 11-0095	EA	24 Volt AC/DC Power Supply, On/Off Control Input, 16 Seconds Run Time, 3,560 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY4-24).....	2,298.05	92.09
23 09 23 11-0096	EA	24 Volt AC/DC Power Supply, On/Off Control Input, 22 Seconds Run Time, 4,450 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY5-24).....	2,609.38	92.09
23 09 23 11-0097	EA	120 Volt AC Power Supply, On/Off Control Input, 28 Seconds Run Time, 5,785 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY6-110).....	3,097.32	92.09
23 09 23 11-0098	EA	120 Volt AC Power Supply, On/Off Control Input, 46 Seconds Run Time, 8,900 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY7-110).....	3,656.82	92.09
23 09 23 11-0099	EA	120 Volt AC Power Supply, On/Off Control Input, 46 Seconds Run Time, 13,350 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY8-110).....	4,943.38	92.09
23 09 23 11-0100	EA	120 Volt AC Power Supply, On/Off Control Input, 58 Seconds Run Time, 17,800 IN-LB, Direct Coupled, Non-Spring Return, Valve Actuator (Belimo SY9-110).....	6,044.94	92.09

23 09 23 12 Control Dampers (23 09 23)**23 09 23 12-0001 Rectangular Volume Control Dampers (Ruskin) (23 09 23 12)**

Note: Excludes actuators.

23 09 23 12-0002 Rectangular Volume Control Dampers (Ruskin CD36) (23 09 23 12-0001)

23 09 23 12-0003	EA	8" x 8" Volume Control Damper (Ruskin CD36).....	153.13	44.44
23 09 23 12-0004	EA	8" x 12" Volume Control Damper (Ruskin CD36).....	162.31	44.44
23 09 23 12-0005	EA	8" x 16" Volume Control Damper (Ruskin CD36).....	173.40	44.44
23 09 23 12-0006	EA	8" x 20" Volume Control Damper (Ruskin CD36).....	228.66	59.25
23 09 23 12-0007	EA	8" x 24" Volume Control Damper (Ruskin CD36).....	245.11	59.25
23 09 23 12-0008	EA	8" x 28" Volume Control Damper (Ruskin CD36).....	254.29	59.25
23 09 23 12-0009	EA	8" x 32" Volume Control Damper (Ruskin CD36).....	278.38	59.25
23 09 23 12-0010	EA	8" x 36" Volume Control Damper (Ruskin CD36).....	331.73	74.07
23 09 23 12-0011	EA	12" x 8" Volume Control Damper (Ruskin CD36).....	162.31	44.44
23 09 23 12-0012	EA	12" x 12" Volume Control Damper (Ruskin CD36).....	167.66	44.44
23 09 23 12-0013	EA	12" x 16" Volume Control Damper (Ruskin CD36).....	208.39	59.25
23 09 23 12-0014	EA	12" x 20" Volume Control Damper (Ruskin CD36).....	234.01	59.25



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 12-0015	EA	12" x 24" Volume Control Damper (Ruskin CD36).....		280.47	74.07
23 09 23 12-0016	EA	12" x 28" Volume Control Damper (Ruskin CD36).....		289.65	74.07
23 09 23 12-0017	EA	12" x 32" Volume Control Damper (Ruskin CD36).....		313.37	74.07
23 09 23 12-0018	EA	12" x 36" Volume Control Damper (Ruskin CD36).....		366.70	88.87
23 09 23 12-0019	EA	16" x 8" Volume Control Damper (Ruskin CD36).....		173.40	44.44
23 09 23 12-0020	EA	16" x 12" Volume Control Damper (Ruskin CD36).....		215.65	59.25
23 09 23 12-0021	EA	16" x 16" Volume Control Damper (Ruskin CD36).....		216.04	59.25
23 09 23 12-0022	EA	16" x 20" Volume Control Damper (Ruskin CD36).....		269.38	74.07
23 09 23 12-0023	EA	16" x 24" Volume Control Damper (Ruskin CD36).....		287.74	74.07
23 09 23 12-0024	EA	16" x 28" Volume Control Damper (Ruskin CD36).....		329.98	88.87
23 09 23 12-0025	EA	16" x 32" Volume Control Damper (Ruskin CD36).....		350.25	88.87
23 09 23 12-0026	EA	16" x 36" Volume Control Damper (Ruskin CD36).....		372.44	88.87
23 09 23 12-0027	EA	20" x 8" Volume Control Damper (Ruskin CD36).....		228.66	59.25
23 09 23 12-0028	EA	20" x 12" Volume Control Damper (Ruskin CD36).....		204.94	59.25
23 09 23 12-0029	EA	20" x 16" Volume Control Damper (Ruskin CD36).....		251.02	74.07
23 09 23 12-0030	EA	20" x 20" Volume Control Damper (Ruskin CD36).....		274.74	74.07
23 09 23 12-0031	EA	20" x 24" Volume Control Damper (Ruskin CD36).....		319.27	88.87
23 09 23 12-0032	EA	20" x 28" Volume Control Damper (Ruskin CD36).....		341.07	88.87
23 09 23 12-0033	EA	20" x 32" Volume Control Damper (Ruskin CD36).....		389.45	103.69
23 09 23 12-0034	EA	20" x 36" Volume Control Damper (Ruskin CD36).....		409.34	103.69
23 09 23 12-0035	EA	24" x 8" Volume Control Damper (Ruskin CD36).....		204.94	59.25
23 09 23 12-0036	EA	24" x 12" Volume Control Damper (Ruskin CD36).....		239.93	74.07
23 09 23 12-0037	EA	24" x 16" Volume Control Damper (Ruskin CD36).....		256.38	74.07
23 09 23 12-0038	EA	24" x 20" Volume Control Damper (Ruskin CD36).....		311.62	88.87
23 09 23 12-0039	EA	24" x 24" Volume Control Damper (Ruskin CD36).....		328.45	88.87
23 09 23 12-0040	EA	24" x 28" Volume Control Damper (Ruskin CD36).....		377.97	103.69
23 09 23 12-0041	EA	24" x 32" Volume Control Damper (Ruskin CD36).....		402.07	103.69
23 09 23 12-0042	EA	24" x 36" Volume Control Damper (Ruskin CD36).....		420.43	103.69
23 09 23 12-0043	EA	28" x 8" Volume Control Damper (Ruskin CD36).....		208.39	59.25
23 09 23 12-0044	EA	28" x 12" Volume Control Damper (Ruskin CD36).....		243.75	74.07
23 09 23 12-0045	EA	28" x 16" Volume Control Damper (Ruskin CD36).....		287.91	88.87
23 09 23 12-0046	EA	28" x 20" Volume Control Damper (Ruskin CD36).....		317.36	88.87
23 09 23 12-0047	EA	28" x 24" Volume Control Damper (Ruskin CD36).....		361.53	103.69
23 09 23 12-0048	EA	28" x 28" Volume Control Damper (Ruskin CD36).....		383.71	103.69
23 09 23 12-0049	EA	28" x 32" Volume Control Damper (Ruskin CD36).....		403.98	103.69
23 09 23 12-0050	EA	28" x 36" Volume Control Damper (Ruskin CD36).....		431.52	103.69
23 09 23 12-0051	EA	32" x 8" Volume Control Damper (Ruskin CD36).....		210.30	59.25
23 09 23 12-0052	EA	32" x 12" Volume Control Damper (Ruskin CD36).....		245.28	74.07
23 09 23 12-0053	EA	32" x 16" Volume Control Damper (Ruskin CD36).....		293.26	88.87
23 09 23 12-0054	EA	32" x 20" Volume Control Damper (Ruskin CD36).....		348.90	103.69
23 09 23 12-0055	EA	32" x 24" Volume Control Damper (Ruskin CD36).....		370.70	103.69
23 09 23 12-0056	EA	32" x 28" Volume Control Damper (Ruskin CD36).....		390.98	103.69
23 09 23 12-0057	EA	32" x 32" Volume Control Damper (Ruskin CD36).....		413.16	103.69
23 09 23 12-0058	EA	32" x 36" Volume Control Damper (Ruskin CD36).....		468.41	118.50
23 09 23 12-0059	EA	36" x 8" Volume Control Damper (Ruskin CD36).....		247.20	74.07
23 09 23 12-0060	EA	36" x 12" Volume Control Damper (Ruskin CD36).....		282.55	88.87
23 09 23 12-0061	EA	36" x 16" Volume Control Damper (Ruskin CD36).....		299.00	88.87
23 09 23 12-0062	EA	36" x 20" Volume Control Damper (Ruskin CD36).....		354.26	103.69
23 09 23 12-0063	EA	36" x 24" Volume Control Damper (Ruskin CD36).....		377.97	103.69
23 09 23 12-0064	EA	36" x 28" Volume Control Damper (Ruskin CD36).....		402.07	103.69
23 09 23 12-0065	EA	36" x 32" Volume Control Damper (Ruskin CD36).....		450.05	118.50
23 09 23 12-0066	EA	36" x 36" Volume Control Damper (Ruskin CD36).....		475.68	118.50
23 09 23 12-0067	EA	36" x 40" Volume Control Damper (Ruskin CD36).....		497.86	118.50
23 09 23 12-0068	EA	36" x 44" Volume Control Damper (Ruskin CD36).....		521.58	118.50
23 09 23 12-0069	EA	36" x 48" Volume Control Damper (Ruskin CD36).....		541.85	118.50
23 09 23 12-0070	EA	36" x 52" Volume Control Damper (Ruskin CD36).....		565.56	118.50
23 09 23 12-0071	EA	36" x 56" Volume Control Damper (Ruskin CD36).....		589.66	118.50
23 09 23 12-0072	EA	36" x 60" Volume Control Damper (Ruskin CD36).....		609.55	118.50
23 09 23 12-0073	EA	36" x 64" Volume Control Damper (Ruskin CD36).....		637.09	118.50
23 09 23 12-0074	EA	36" x 68" Volume Control Damper (Ruskin CD36).....		688.90	133.31
23 09 23 12-0075	EA	36" x 72" Volume Control Damper (Ruskin CD36).....		729.45	133.31
23 09 23 12-0076	EA	36" x 76" Volume Control Damper (Ruskin CD36).....		853.38	133.31
23 09 23 12-0077	EA	36" x 80" Volume Control Damper (Ruskin CD36).....		853.38	133.31
23 09 23 12-0078	EA	36" x 84" Volume Control Damper (Ruskin CD36).....		906.93	133.31
23 09 23 12-0079	EA	40" x 40" Volume Control Damper (Ruskin CD36).....		507.04	118.50
23 09 23 12-0080	EA	40" x 44" Volume Control Damper (Ruskin CD36).....		530.76	118.50
23 09 23 12-0081	EA	40" x 48" Volume Control Damper (Ruskin CD36).....		554.47	118.50
23 09 23 12-0082	EA	40" x 52" Volume Control Damper (Ruskin CD36).....		580.48	118.50
23 09 23 12-0083	EA	40" x 56" Volume Control Damper (Ruskin CD36).....		602.28	118.50
23 09 23 12-0084	EA	40" x 60" Volume Control Damper (Ruskin CD36).....		652.18	133.31
23 09 23 12-0085	EA	40" x 64" Volume Control Damper (Ruskin CD36).....		679.72	133.31
23 09 23 12-0086	EA	40" x 68" Volume Control Damper (Ruskin CD36).....		705.35	133.31
23 09 23 12-0087	EA	40" x 72" Volume Control Damper (Ruskin CD36).....		743.98	133.31
23 09 23 12-0088	EA	40" x 76" Volume Control Damper (Ruskin CD36).....		874.03	133.31
23 09 23 12-0089	EA	40" x 80" Volume Control Damper (Ruskin CD36).....		874.03	133.31
23 09 23 12-0090	EA	40" x 84" Volume Control Damper (Ruskin CD36).....		927.58	133.31
23 09 23 12-0091	EA	44" x 40" Volume Control Damper (Ruskin CD36).....		517.75	118.50
23 09 23 12-0092	EA	44" x 44" Volume Control Damper (Ruskin CD36).....		541.85	118.50
23 09 23 12-0093	EA	44" x 48" Volume Control Damper (Ruskin CD36).....		565.56	118.50
23 09 23 12-0094	EA	44" x 52" Volume Control Damper (Ruskin CD36).....		591.19	118.50
23 09 23 12-0095	EA	44" x 56" Volume Control Damper (Ruskin CD36).....		643.00	133.31

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 23 12-0096	EA	44" x 60" Volume Control Damper (Ruskin CD36)	668.63	133.31
23 09 23 12-0097	EA	44" x 64" Volume Control Damper (Ruskin CD36)	692.73	133.31
23 09 23 12-0098	EA	44" x 68" Volume Control Damper (Ruskin CD36)	721.80	133.31
23 09 23 12-0099	EA	44" x 72" Volume Control Damper (Ruskin CD36)	760.43	133.31
23 09 23 12-0100	EA	44" x 76" Volume Control Damper (Ruskin CD36)	898.51	133.31
23 09 23 12-0101	EA	44" x 80" Volume Control Damper (Ruskin CD36)	898.51	133.31
23 09 23 12-0102	EA	44" x 84" Volume Control Damper (Ruskin CD36)	982.06	148.13
23 09 23 12-0103	EA	40" x 40" Volume Control Damper (Ruskin CD36)	507.04	118.50
23 09 23 12-0104	EA	40" x 44" Volume Control Damper (Ruskin CD36)	530.76	118.50
23 09 23 12-0105	EA	40" x 48" Volume Control Damper (Ruskin CD36)	554.47	118.50
23 09 23 12-0106	EA	40" x 52" Volume Control Damper (Ruskin CD36)	580.48	118.50
23 09 23 12-0107	EA	40" x 56" Volume Control Damper (Ruskin CD36)	602.28	118.50
23 09 23 12-0108	EA	40" x 60" Volume Control Damper (Ruskin CD36)	652.18	133.31
23 09 23 12-0109	EA	40" x 64" Volume Control Damper (Ruskin CD36)	679.72	133.31
23 09 23 12-0110	EA	40" x 68" Volume Control Damper (Ruskin CD36)	705.35	133.31
23 09 23 12-0111	EA	40" x 72" Volume Control Damper (Ruskin CD36)	743.98	133.31
23 09 23 12-0112	EA	40" x 76" Volume Control Damper (Ruskin CD36)	874.03	133.31
23 09 23 12-0113	EA	40" x 80" Volume Control Damper (Ruskin CD36)	874.03	133.31
23 09 23 12-0114	EA	40" x 84" Volume Control Damper (Ruskin CD36)	927.58	133.31
23 09 23 12-0115	EA	44" x 40" Volume Control Damper (Ruskin CD36)	517.75	118.50
23 09 23 12-0116	EA	44" x 44" Volume Control Damper (Ruskin CD36)	541.85	118.50
23 09 23 12-0117	EA	44" x 48" Volume Control Damper (Ruskin CD36)	565.56	118.50
23 09 23 12-0118	EA	44" x 52" Volume Control Damper (Ruskin CD36)	591.19	118.50
23 09 23 12-0119	EA	44" x 56" Volume Control Damper (Ruskin CD36)	643.00	133.31
23 09 23 12-0120	EA	44" x 60" Volume Control Damper (Ruskin CD36)	668.63	133.31
23 09 23 12-0121	EA	44" x 64" Volume Control Damper (Ruskin CD36)	692.73	133.31
23 09 23 12-0122	EA	44" x 68" Volume Control Damper (Ruskin CD36)	721.80	133.31
23 09 23 12-0123	EA	44" x 72" Volume Control Damper (Ruskin CD36)	760.43	133.31
23 09 23 12-0124	EA	44" x 76" Volume Control Damper (Ruskin CD36)	898.51	133.31
23 09 23 12-0125	EA	44" x 80" Volume Control Damper (Ruskin CD36)	898.51	133.31
23 09 23 12-0126	EA	44" x 84" Volume Control Damper (Ruskin CD36)	982.06	148.13
23 09 23 12-0127	EA	48" x 40" Volume Control Damper (Ruskin CD36)	528.84	118.50
23 09 23 12-0128	EA	48" x 44" Volume Control Damper (Ruskin CD36)	552.94	118.50
23 09 23 12-0129	EA	48" x 48" Volume Control Damper (Ruskin CD36)	578.57	118.50
23 09 23 12-0130	EA	48" x 52" Volume Control Damper (Ruskin CD36)	633.82	133.31
23 09 23 12-0131	EA	48" x 56" Volume Control Damper (Ruskin CD36)	657.54	133.31
23 09 23 12-0132	EA	48" x 60" Volume Control Damper (Ruskin CD36)	679.72	133.31
23 09 23 12-0133	EA	48" x 64" Volume Control Damper (Ruskin CD36)	707.26	133.31
23 09 23 12-0134	EA	48" x 68" Volume Control Damper (Ruskin CD36)	734.80	133.31
23 09 23 12-0135	EA	48" x 72" Volume Control Damper (Ruskin CD36)	778.79	133.31
23 09 23 12-0136	EA	48" x 76" Volume Control Damper (Ruskin CD36)	952.99	148.13
23 09 23 12-0137	EA	48" x 80" Volume Control Damper (Ruskin CD36)	952.99	148.13
23 09 23 12-0138	EA	48" x 84" Volume Control Damper (Ruskin CD36)	1,006.92	148.13
23 09 23 12-0139	EA	52" x 40" Volume Control Damper (Ruskin CD36)	787.79	118.50
23 09 23 12-0140	EA	52" x 44" Volume Control Damper (Ruskin CD36)	824.51	118.50
23 09 23 12-0141	EA	52" x 48" Volume Control Damper (Ruskin CD36)	911.13	133.31
23 09 23 12-0142	EA	52" x 52" Volume Control Damper (Ruskin CD36)	962.39	133.31
23 09 23 12-0143	EA	52" x 56" Volume Control Damper (Ruskin CD36)	999.11	133.31
23 09 23 12-0144	EA	52" x 60" Volume Control Damper (Ruskin CD36)	1,041.56	133.31
23 09 23 12-0145	EA	52" x 64" Volume Control Damper (Ruskin CD36)	1,096.64	133.31
23 09 23 12-0146	EA	52" x 68" Volume Control Damper (Ruskin CD36)	1,155.16	133.31
23 09 23 12-0147	EA	52" x 72" Volume Control Damper (Ruskin CD36)	1,254.78	148.13
23 09 23 12-0148	EA	52" x 76" Volume Control Damper (Ruskin CD36)	1,386.74	148.13
23 09 23 12-0149	EA	52" x 80" Volume Control Damper (Ruskin CD36)	1,387.12	148.13
23 09 23 12-0150	EA	52" x 84" Volume Control Damper (Ruskin CD36)	1,469.36	148.13
23 09 23 12-0151	EA	56" x 40" Volume Control Damper (Ruskin CD36)	795.06	118.50
23 09 23 12-0152	EA	56" x 44" Volume Control Damper (Ruskin CD36)	867.15	133.31
23 09 23 12-0153	EA	56" x 48" Volume Control Damper (Ruskin CD36)	922.22	133.31
23 09 23 12-0154	EA	56" x 52" Volume Control Damper (Ruskin CD36)	968.12	133.31
23 09 23 12-0155	EA	56" x 56" Volume Control Damper (Ruskin CD36)	1,010.20	133.31
23 09 23 12-0156	EA	56" x 60" Volume Control Damper (Ruskin CD36)	1,058.01	133.31
23 09 23 12-0157	EA	56" x 64" Volume Control Damper (Ruskin CD36)	1,111.18	133.31
23 09 23 12-0158	EA	56" x 68" Volume Control Damper (Ruskin CD36)	1,206.97	148.13
23 09 23 12-0159	EA	56" x 72" Volume Control Damper (Ruskin CD36)	1,280.41	148.13
23 09 23 12-0160	EA	56" x 76" Volume Control Damper (Ruskin CD36)	1,386.74	148.13
23 09 23 12-0161	EA	56" x 80" Volume Control Damper (Ruskin CD36)	1,386.74	148.13
23 09 23 12-0162	EA	56" x 84" Volume Control Damper (Ruskin CD36)	1,469.36	148.13
23 09 23 12-0163	EA	60" x 40" Volume Control Damper (Ruskin CD36)	835.78	133.31
23 09 23 12-0164	EA	60" x 44" Volume Control Damper (Ruskin CD36)	883.59	133.31
23 09 23 12-0165	EA	60" x 48" Volume Control Damper (Ruskin CD36)	936.76	133.31
23 09 23 12-0166	EA	60" x 52" Volume Control Damper (Ruskin CD36)	984.57	133.31
23 09 23 12-0167	EA	60" x 56" Volume Control Damper (Ruskin CD36)	1,035.83	133.31
23 09 23 12-0168	EA	60" x 60" Volume Control Damper (Ruskin CD36)	1,074.46	133.31
23 09 23 12-0169	EA	60" x 64" Volume Control Damper (Ruskin CD36)	1,157.24	148.13
23 09 23 12-0170	EA	60" x 68" Volume Control Damper (Ruskin CD36)	1,221.50	148.13
23 09 23 12-0171	EA	60" x 72" Volume Control Damper (Ruskin CD36)	1,306.03	148.13
23 09 23 12-0172	EA	60" x 76" Volume Control Damper (Ruskin CD36)	1,428.05	148.13
23 09 23 12-0173	EA	60" x 80" Volume Control Damper (Ruskin CD36)	1,428.05	148.13
23 09 23 12-0174	EA	60" x 84" Volume Control Damper (Ruskin CD36)	1,535.53	148.13
23 09 23 12-0175	EA	64" x 40" Volume Control Damper (Ruskin CD36)	846.87	133.31
23 09 23 12-0176	EA	64" x 44" Volume Control Damper (Ruskin CD36)	900.04	133.31



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 12-0177	EA	64" x 48" Volume Control Damper (Ruskin CD36).....		951.29	133.31
23 09 23 12-0178	EA	64" x 52" Volume Control Damper (Ruskin CD36).....		997.19	133.31
23 09 23 12-0179	EA	64" x 56" Volume Control Damper (Ruskin CD36).....		1,048.83	133.31
23 09 23 12-0180	EA	64" x 60" Volume Control Damper (Ruskin CD36).....		1,120.52	148.13
23 09 23 12-0181	EA	64" x 64" Volume Control Damper (Ruskin CD36).....		1,172.16	148.13
23 09 23 12-0182	EA	64" x 68" Volume Control Damper (Ruskin CD36).....		1,234.51	148.13
23 09 23 12-0183	EA	64" x 72" Volume Control Damper (Ruskin CD36).....		1,331.66	148.13
23 09 23 12-0184	EA	64" x 76" Volume Control Damper (Ruskin CD36).....		1,428.05	148.13
23 09 23 12-0185	EA	64" x 80" Volume Control Damper (Ruskin CD36).....		1,428.05	148.13
23 09 23 12-0186	EA	64" x 84" Volume Control Damper (Ruskin CD36).....		1,565.16	162.94
23 09 23 12-0187	EA	66" x 40" Volume Control Damper (Ruskin CD36).....		856.05	133.31
23 09 23 12-0188	EA	66" x 44" Volume Control Damper (Ruskin CD36).....		911.13	133.31
23 09 23 12-0189	EA	66" x 48" Volume Control Damper (Ruskin CD36).....		960.47	133.31
23 09 23 12-0190	EA	66" x 52" Volume Control Damper (Ruskin CD36).....		1,010.20	133.31
23 09 23 12-0191	EA	66" x 56" Volume Control Damper (Ruskin CD36).....		1,092.99	148.13
23 09 23 12-0192	EA	66" x 60" Volume Control Damper (Ruskin CD36).....		1,136.97	148.13
23 09 23 12-0193	EA	66" x 64" Volume Control Damper (Ruskin CD36).....		1,193.96	148.13
23 09 23 12-0194	EA	66" x 68" Volume Control Damper (Ruskin CD36).....		1,250.95	148.13
23 09 23 12-0195	EA	66" x 72" Volume Control Damper (Ruskin CD36).....		1,346.58	148.13
23 09 23 12-0196	EA	66" x 76" Volume Control Damper (Ruskin CD36).....		1,469.36	148.13
23 09 23 12-0197	EA	66" x 80" Volume Control Damper (Ruskin CD36).....		1,498.99	162.94
23 09 23 12-0198	EA	66" x 84" Volume Control Damper (Ruskin CD36).....		1,606.47	162.94
23 09 23 12-0199	EA	72" x 40" Volume Control Damper (Ruskin CD36).....		866.76	133.31
23 09 23 12-0200	EA	72" x 44" Volume Control Damper (Ruskin CD36).....		922.22	133.31
23 09 23 12-0201	EA	72" x 48" Volume Control Damper (Ruskin CD36).....		968.12	133.31
23 09 23 12-0202	EA	72" x 52" Volume Control Damper (Ruskin CD36).....		1,052.82	148.13
23 09 23 12-0203	EA	72" x 56" Volume Control Damper (Ruskin CD36).....		1,107.90	148.13
23 09 23 12-0204	EA	72" x 60" Volume Control Damper (Ruskin CD36).....		1,153.80	148.13
23 09 23 12-0205	EA	72" x 64" Volume Control Damper (Ruskin CD36).....		1,218.06	148.13
23 09 23 12-0206	EA	72" x 68" Volume Control Damper (Ruskin CD36).....		1,267.40	148.13
23 09 23 12-0207	EA	72" x 72" Volume Control Damper (Ruskin CD36).....		1,361.11	148.13
23 09 23 12-0208	EA	72" x 76" Volume Control Damper (Ruskin CD36).....		1,498.99	162.94
23 09 23 12-0209	EA	72" x 80" Volume Control Damper (Ruskin CD36).....		1,498.99	162.94
23 09 23 12-0210	EA	72" x 84" Volume Control Damper (Ruskin CD36).....		1,606.47	162.94
23 09 23 12-0211	EA	76" x 40" Volume Control Damper (Ruskin CD36).....		877.86	133.31
23 09 23 12-0212	EA	76" x 44" Volume Control Damper (Ruskin CD36).....		931.40	133.31
23 09 23 12-0213	EA	76" x 48" Volume Control Damper (Ruskin CD36).....		1,012.28	148.13
23 09 23 12-0214	EA	76" x 52" Volume Control Damper (Ruskin CD36).....		1,067.36	148.13
23 09 23 12-0215	EA	76" x 56" Volume Control Damper (Ruskin CD36).....		1,122.44	148.13
23 09 23 12-0216	EA	76" x 60" Volume Control Damper (Ruskin CD36).....		1,168.34	148.13
23 09 23 12-0217	EA	76" x 64" Volume Control Damper (Ruskin CD36).....		1,232.60	148.13
23 09 23 12-0218	EA	76" x 68" Volume Control Damper (Ruskin CD36).....		1,294.94	148.13
23 09 23 12-0219	EA	76" x 72" Volume Control Damper (Ruskin CD36).....		1,407.19	162.94
23 09 23 12-0220	EA	76" x 76" Volume Control Damper (Ruskin CD36).....		1,540.30	162.94
23 09 23 12-0221	EA	76" x 80" Volume Control Damper (Ruskin CD36).....		1,540.30	162.94
23 09 23 12-0222	EA	76" x 84" Volume Control Damper (Ruskin CD36).....		1,647.78	162.94
23 09 23 12-0223	EA	80" x 40" Volume Control Damper (Ruskin CD36).....		888.95	133.31
23 09 23 12-0224	EA	80" x 44" Volume Control Damper (Ruskin CD36).....		942.11	133.31
23 09 23 12-0225	EA	80" x 48" Volume Control Damper (Ruskin CD36).....		1,026.81	148.13
23 09 23 12-0226	EA	80" x 52" Volume Control Damper (Ruskin CD36).....		1,087.63	148.13
23 09 23 12-0227	EA	80" x 56" Volume Control Damper (Ruskin CD36).....		1,136.97	148.13
23 09 23 12-0228	EA	80" x 60" Volume Control Damper (Ruskin CD36).....		1,182.87	148.13
23 09 23 12-0229	EA	80" x 64" Volume Control Damper (Ruskin CD36).....		1,247.13	148.13
23 09 23 12-0230	EA	80" x 68" Volume Control Damper (Ruskin CD36).....		1,335.66	162.94
23 09 23 12-0231	EA	80" x 72" Volume Control Damper (Ruskin CD36).....		1,423.64	162.94
23 09 23 12-0232	EA	80" x 76" Volume Control Damper (Ruskin CD36).....		1,540.30	162.94
23 09 23 12-0233	EA	80" x 80" Volume Control Damper (Ruskin CD36).....		1,540.30	162.94
23 09 23 12-0234	EA	80" x 84" Volume Control Damper (Ruskin CD36).....		1,647.78	162.94
23 09 23 12-0235	EA	84" x 40" Volume Control Damper (Ruskin CD36).....		896.22	133.31
23 09 23 12-0236	EA	84" x 44" Volume Control Damper (Ruskin CD36).....		980.91	148.13
23 09 23 12-0237	EA	84" x 48" Volume Control Damper (Ruskin CD36).....		1,041.73	148.13
23 09 23 12-0238	EA	84" x 52" Volume Control Damper (Ruskin CD36).....		1,107.90	148.13
23 09 23 12-0239	EA	84" x 56" Volume Control Damper (Ruskin CD36).....		1,148.06	148.13
23 09 23 12-0240	EA	84" x 60" Volume Control Damper (Ruskin CD36).....		1,197.79	148.13
23 09 23 12-0241	EA	84" x 64" Volume Control Damper (Ruskin CD36).....		1,291.68	162.94
23 09 23 12-0242	EA	84" x 68" Volume Control Damper (Ruskin CD36).....		1,355.94	162.94
23 09 23 12-0243	EA	84" x 72" Volume Control Damper (Ruskin CD36).....		1,440.47	162.94
23 09 23 12-0244	EA	84" x 76" Volume Control Damper (Ruskin CD36).....		1,590.02	162.94
23 09 23 12-0245	EA	84" x 80" Volume Control Damper (Ruskin CD36).....		1,590.02	162.94
23 09 23 12-0246	EA	84" x 84" Volume Control Damper (Ruskin CD36).....		1,697.50	162.94
23 09 23 12-0247 Low Leakage Rectangular Volume Control Dampers (Ruskin CD50) (23 09 23 12-0001)					
23 09 23 12-0248	EA	8" x 8" Low Leakage Volume Control Damper (Ruskin CD50).....		244.20	44.44
23 09 23 12-0249	EA	8" x 12" Low Leakage Volume Control Damper (Ruskin CD50).....		299.13	44.44
23 09 23 12-0250	EA	8" x 16" Low Leakage Volume Control Damper (Ruskin CD50).....		337.02	44.44
23 09 23 12-0251	EA	8" x 20" Low Leakage Volume Control Damper (Ruskin CD50).....		372.33	59.25
23 09 23 12-0252	EA	8" x 24" Low Leakage Volume Control Damper (Ruskin CD50).....		412.11	59.25
23 09 23 12-0253	EA	8" x 28" Low Leakage Volume Control Damper (Ruskin CD50).....		448.10	59.25
23 09 23 12-0254	EA	8" x 32" Low Leakage Volume Control Damper (Ruskin CD50).....		453.78	59.25
23 09 23 12-0255	EA	8" x 36" Low Leakage Volume Control Damper (Ruskin CD50).....		521.30	74.07

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 23 12-0256	EA	12" x 8" Low Leakage Volume Control Damper (Ruskin CD50)	244.20	44.44
23 09 23 12-0257	EA	12" x 12" Low Leakage Volume Control Damper (Ruskin CD50)	299.13	44.44
23 09 23 12-0258	EA	12" x 16" Low Leakage Volume Control Damper (Ruskin CD50)	366.65	59.25
23 09 23 12-0259	EA	12" x 20" Low Leakage Volume Control Damper (Ruskin CD50)	372.33	59.25
23 09 23 12-0260	EA	12" x 24" Low Leakage Volume Control Damper (Ruskin CD50)	441.74	74.07
23 09 23 12-0261	EA	12" x 28" Low Leakage Volume Control Damper (Ruskin CD50)	477.73	74.07
23 09 23 12-0262	EA	12" x 32" Low Leakage Volume Control Damper (Ruskin CD50)	483.41	74.07
23 09 23 12-0263	EA	12" x 36" Low Leakage Volume Control Damper (Ruskin CD50)	550.92	88.87
23 09 23 12-0264	EA	16" x 8" Low Leakage Volume Control Damper (Ruskin CD50)	251.78	44.44
23 09 23 12-0265	EA	16" x 12" Low Leakage Volume Control Damper (Ruskin CD50)	342.02	59.25
23 09 23 12-0266	EA	16" x 16" Low Leakage Volume Control Damper (Ruskin CD50)	385.59	59.25
23 09 23 12-0267	EA	16" x 20" Low Leakage Volume Control Damper (Ruskin CD50)	419.01	74.07
23 09 23 12-0268	EA	16" x 24" Low Leakage Volume Control Damper (Ruskin CD50)	462.58	74.07
23 09 23 12-0269	EA	16" x 28" Low Leakage Volume Control Damper (Ruskin CD50)	530.08	88.87
23 09 23 12-0270	EA	16" x 32" Low Leakage Volume Control Damper (Ruskin CD50)	535.76	88.87
23 09 23 12-0271	EA	16" x 36" Low Leakage Volume Control Damper (Ruskin CD50)	583.12	88.87
23 09 23 12-0272	EA	20" x 8" Low Leakage Volume Control Damper (Ruskin CD50)	296.56	59.25
23 09 23 12-0273	EA	20" x 12" Low Leakage Volume Control Damper (Ruskin CD50)	366.65	59.25
23 09 23 12-0274	EA	20" x 16" Low Leakage Volume Control Damper (Ruskin CD50)	441.74	74.07
23 09 23 12-0275	EA	20" x 20" Low Leakage Volume Control Damper (Ruskin CD50)	447.42	74.07
23 09 23 12-0276	EA	20" x 24" Low Leakage Volume Control Damper (Ruskin CD50)	514.93	88.87
23 09 23 12-0277	EA	20" x 28" Low Leakage Volume Control Damper (Ruskin CD50)	564.18	88.87
23 09 23 12-0278	EA	20" x 32" Low Leakage Volume Control Damper (Ruskin CD50)	607.07	103.69
23 09 23 12-0279	EA	20" x 36" Low Leakage Volume Control Damper (Ruskin CD50)	644.95	103.69
23 09 23 12-0280	EA	24" x 8" Low Leakage Volume Control Damper (Ruskin CD50)	311.71	59.25
23 09 23 12-0281	EA	24" x 12" Low Leakage Volume Control Damper (Ruskin CD50)	411.43	74.07
23 09 23 12-0282	EA	24" x 16" Low Leakage Volume Control Damper (Ruskin CD50)	456.89	74.07
23 09 23 12-0283	EA	24" x 20" Low Leakage Volume Control Damper (Ruskin CD50)	494.09	88.87
23 09 23 12-0284	EA	24" x 24" Low Leakage Volume Control Damper (Ruskin CD50)	545.24	88.87
23 09 23 12-0285	EA	24" x 28" Low Leakage Volume Control Damper (Ruskin CD50)	622.22	103.69
23 09 23 12-0286	EA	24" x 32" Low Leakage Volume Control Damper (Ruskin CD50)	631.69	103.69
23 09 23 12-0287	EA	24" x 36" Low Leakage Volume Control Damper (Ruskin CD50)	679.05	103.69
23 09 23 12-0288	EA	28" x 8" Low Leakage Volume Control Damper (Ruskin CD50)	319.29	59.25
23 09 23 12-0289	EA	28" x 12" Low Leakage Volume Control Damper (Ruskin CD50)	424.69	74.07
23 09 23 12-0290	EA	28" x 16" Low Leakage Volume Control Damper (Ruskin CD50)	503.56	88.87
23 09 23 12-0291	EA	28" x 20" Low Leakage Volume Control Damper (Ruskin CD50)	513.03	88.87
23 09 23 12-0292	EA	28" x 24" Low Leakage Volume Control Damper (Ruskin CD50)	597.60	103.69
23 09 23 12-0293	EA	28" x 28" Low Leakage Volume Control Damper (Ruskin CD50)	646.85	103.69
23 09 23 12-0294	EA	28" x 32" Low Leakage Volume Control Damper (Ruskin CD50)	650.64	103.69
23 09 23 12-0295	EA	28" x 36" Low Leakage Volume Control Damper (Ruskin CD50)	711.25	103.69
23 09 23 12-0296	EA	32" x 8" Low Leakage Volume Control Damper (Ruskin CD50)	336.34	59.25
23 09 23 12-0297	EA	32" x 12" Low Leakage Volume Control Damper (Ruskin CD50)	445.53	74.07
23 09 23 12-0298	EA	32" x 16" Low Leakage Volume Control Damper (Ruskin CD50)	535.76	88.87
23 09 23 12-0299	EA	32" x 20" Low Leakage Volume Control Damper (Ruskin CD50)	571.08	103.69
23 09 23 12-0300	EA	32" x 24" Low Leakage Volume Control Damper (Ruskin CD50)	631.69	103.69
23 09 23 12-0301	EA	32" x 28" Low Leakage Volume Control Damper (Ruskin CD50)	677.16	103.69
23 09 23 12-0302	EA	32" x 32" Low Leakage Volume Control Damper (Ruskin CD50)	688.52	103.69
23 09 23 12-0303	EA	32" x 36" Low Leakage Volume Control Damper (Ruskin CD50)	773.07	118.50
23 09 23 12-0304	EA	36" x 8" Low Leakage Volume Control Damper (Ruskin CD50)	383.02	74.07
23 09 23 12-0305	EA	36" x 12" Low Leakage Volume Control Damper (Ruskin CD50)	492.20	88.87
23 09 23 12-0306	EA	36" x 16" Low Leakage Volume Control Damper (Ruskin CD50)	550.92	88.87
23 09 23 12-0307	EA	36" x 20" Low Leakage Volume Control Damper (Ruskin CD50)	586.23	103.69
23 09 23 12-0308	EA	36" x 24" Low Leakage Volume Control Damper (Ruskin CD50)	650.64	103.69
23 09 23 12-0309	EA	36" x 28" Low Leakage Volume Control Damper (Ruskin CD50)	713.15	103.69
23 09 23 12-0310	EA	36" x 32" Low Leakage Volume Control Damper (Ruskin CD50)	746.55	118.50
23 09 23 12-0311	EA	36" x 36" Low Leakage Volume Control Damper (Ruskin CD50)	809.07	118.50
23 09 23 12-0312	EA	36" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	864.00	118.50
23 09 23 12-0313	EA	36" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	877.26	118.50
23 09 23 12-0314	EA	36" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	941.66	118.50
23 09 23 12-0315	EA	36" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,000.39	118.50
23 09 23 12-0316	EA	36" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,013.64	118.50
23 09 23 12-0317	EA	36" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,068.58	118.50
23 09 23 12-0318	EA	36" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,125.41	118.50
23 09 23 12-0319	EA	36" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,166.40	133.31
23 09 23 12-0320	EA	36" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,225.12	133.31
23 09 23 12-0321	EA	36" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,646.12	133.31
23 09 23 12-0322	EA	36" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,646.12	133.31
23 09 23 12-0323	EA	36" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,675.01	133.31
23 09 23 12-0324	EA	40" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	903.78	118.50
23 09 23 12-0325	EA	40" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	915.14	118.50
23 09 23 12-0326	EA	40" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	977.65	118.50
23 09 23 12-0327	EA	40" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,045.85	118.50
23 09 23 12-0328	EA	40" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,051.53	118.50
23 09 23 12-0329	EA	40" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,143.67	133.31
23 09 23 12-0330	EA	40" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,208.08	133.31
23 09 23 12-0331	EA	40" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,225.12	133.31
23 09 23 12-0332	EA	40" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,289.53	133.31
23 09 23 12-0333	EA	40" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,733.73	133.31
23 09 23 12-0334	EA	40" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,733.73	133.31
23 09 23 12-0335	EA	40" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,758.36	133.31
23 09 23 12-0336	EA	44" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	935.98	118.50



MINOR			TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION			UNIT COST		UNIT COST
23 09 23 12-0337	EA	44" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	953.03		118.50
23 09 23 12-0338	EA	44" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,017.43		118.50
23 09 23 12-0339	EA	44" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,093.20		118.50
23 09 23 12-0340	EA	44" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,128.52		133.31
23 09 23 12-0341	EA	44" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,192.92		133.31
23 09 23 12-0342	EA	44" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,264.90		133.31
23 09 23 12-0343	EA	44" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,281.95		133.31
23 09 23 12-0344	EA	44" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,344.46		133.31
23 09 23 12-0345	EA	44" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,804.29		133.31
23 09 23 12-0346	EA	44" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,804.29		133.31
23 09 23 12-0347	EA	44" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,871.32		148.13
23 09 23 12-0348	EA	40" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	903.78		118.50
23 09 23 12-0349	EA	40" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	915.14		118.50
23 09 23 12-0350	EA	40" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	977.65		118.50
23 09 23 12-0351	EA	40" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,045.85		118.50
23 09 23 12-0352	EA	40" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,051.53		118.50
23 09 23 12-0353	EA	40" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,143.67		133.31
23 09 23 12-0354	EA	40" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,208.08		133.31
23 09 23 12-0355	EA	40" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,225.12		133.31
23 09 23 12-0356	EA	40" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,289.53		133.31
23 09 23 12-0357	EA	40" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,733.73		133.31
23 09 23 12-0358	EA	40" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,733.73		133.31
23 09 23 12-0359	EA	40" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,758.36		133.31
23 09 23 12-0360	EA	44" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	935.98		118.50
23 09 23 12-0361	EA	44" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	953.03		118.50
23 09 23 12-0362	EA	44" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	977.65		118.50
23 09 23 12-0363	EA	44" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,045.85		118.50
23 09 23 12-0364	EA	44" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,128.52		133.31
23 09 23 12-0365	EA	44" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,192.92		133.31
23 09 23 12-0366	EA	44" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,264.90		133.31
23 09 23 12-0367	EA	44" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,281.95		133.31
23 09 23 12-0368	EA	44" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,344.46		133.31
23 09 23 12-0369	EA	44" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,804.29		133.31
23 09 23 12-0370	EA	44" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,804.29		133.31
23 09 23 12-0371	EA	44" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,871.32		148.13
23 09 23 12-0372	EA	48" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	971.97		118.50
23 09 23 12-0373	EA	48" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	987.13		118.50
23 09 23 12-0374	EA	48" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,061.00		118.50
23 09 23 12-0375	EA	48" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,166.40		133.31
23 09 23 12-0376	EA	48" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,181.56		133.31
23 09 23 12-0377	EA	48" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,244.07		133.31
23 09 23 12-0378	EA	48" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,316.05		133.31
23 09 23 12-0379	EA	48" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,329.31		133.31
23 09 23 12-0380	EA	48" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,399.40		133.31
23 09 23 12-0381	EA	48" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	1,913.00		148.13
23 09 23 12-0382	EA	48" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	1,913.00		148.13
23 09 23 12-0383	EA	48" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	1,946.62		148.13
23 09 23 12-0384	EA	52" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,085.63		118.50
23 09 23 12-0385	EA	52" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,100.78		118.50
23 09 23 12-0386	EA	52" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,211.86		133.31
23 09 23 12-0387	EA	52" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,302.79		133.31
23 09 23 12-0388	EA	52" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,317.94		133.31
23 09 23 12-0389	EA	52" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,389.92		133.31
23 09 23 12-0390	EA	52" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,467.59		133.31
23 09 23 12-0391	EA	52" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,497.90		133.31
23 09 23 12-0392	EA	52" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,624.12		148.13
23 09 23 12-0393	EA	52" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	2,713.32		148.13
23 09 23 12-0394	EA	52" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	2,713.32		148.13
23 09 23 12-0395	EA	52" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	2,813.24		148.13
23 09 23 12-0396	EA	56" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,125.41		118.50
23 09 23 12-0397	EA	56" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,173.98		133.31
23 09 23 12-0398	EA	56" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,255.43		133.31
23 09 23 12-0399	EA	56" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,359.62		133.31
23 09 23 12-0400	EA	56" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,376.66		133.31
23 09 23 12-0401	EA	56" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,454.33		133.31
23 09 23 12-0402	EA	56" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,535.78		133.31
23 09 23 12-0403	EA	56" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,593.82		148.13
23 09 23 12-0404	EA	56" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,673.37		148.13
23 09 23 12-0405	EA	56" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	2,713.32		148.13
23 09 23 12-0406	EA	56" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	2,713.32		148.13
23 09 23 12-0407	EA	56" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	2,813.24		148.13
23 09 23 12-0408	EA	60" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,196.71		133.31
23 09 23 12-0409	EA	60" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,211.86		133.31
23 09 23 12-0410	EA	60" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,308.47		133.31
23 09 23 12-0411	EA	60" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,405.08		133.31
23 09 23 12-0412	EA	60" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,424.02		133.31
23 09 23 12-0413	EA	60" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	1,505.47		133.31
23 09 23 12-0414	EA	60" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	1,624.12		148.13
23 09 23 12-0415	EA	60" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	1,643.07		148.13
23 09 23 12-0416	EA	60" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	1,739.67		148.13
23 09 23 12-0417	EA	60" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	2,921.69		148.13

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 23 12-0418	EA	60" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	2,921.69	148.13
23 09 23 12-0419	EA	60" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	2,954.84	148.13
23 09 23 12-0420	EA	64" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,581.24	133.31
23 09 23 12-0421	EA	64" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,598.29	133.31
23 09 23 12-0422	EA	64" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,751.73	133.31
23 09 23 12-0423	EA	64" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,850.23	133.31
23 09 23 12-0424	EA	64" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,884.32	133.31
23 09 23 12-0425	EA	64" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,023.81	148.13
23 09 23 12-0426	EA	64" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,145.04	148.13
23 09 23 12-0427	EA	64" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,175.35	148.13
23 09 23 12-0428	EA	64" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,275.75	148.13
23 09 23 12-0429	EA	64" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	2,921.69	148.13
23 09 23 12-0430	EA	64" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	2,921.69	148.13
23 09 23 12-0431	EA	64" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	2,984.47	162.94
23 09 23 12-0432	EA	66" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,617.23	133.31
23 09 23 12-0433	EA	66" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,636.18	133.31
23 09 23 12-0434	EA	66" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,782.03	133.31
23 09 23 12-0435	EA	66" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,899.48	133.31
23 09 23 12-0436	EA	66" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	1,957.51	148.13
23 09 23 12-0437	EA	66" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,073.06	148.13
23 09 23 12-0438	EA	66" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,198.08	148.13
23 09 23 12-0439	EA	66" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,226.50	148.13
23 09 23 12-0440	EA	66" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,353.41	148.13
23 09 23 12-0441	EA	66" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	3,055.23	148.13
23 09 23 12-0442	EA	66" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	3,084.86	162.94
23 09 23 12-0443	EA	66" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	3,143.11	162.94
23 09 23 12-0444	EA	72" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,649.44	133.31
23 09 23 12-0445	EA	72" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,674.06	133.31
23 09 23 12-0446	EA	72" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,816.13	133.31
23 09 23 12-0447	EA	72" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	1,976.46	148.13
23 09 23 12-0448	EA	72" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	2,002.97	148.13
23 09 23 12-0449	EA	72" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,124.21	148.13
23 09 23 12-0450	EA	72" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,251.12	148.13
23 09 23 12-0451	EA	72" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,275.75	148.13
23 09 23 12-0452	EA	72" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,408.35	148.13
23 09 23 12-0453	EA	72" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	3,084.86	162.94
23 09 23 12-0454	EA	72" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	3,084.86	162.94
23 09 23 12-0455	EA	72" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	3,143.11	162.94
23 09 23 12-0456	EA	76" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,689.22	133.31
23 09 23 12-0457	EA	76" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,715.74	133.31
23 09 23 12-0458	EA	76" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,887.43	148.13
23 09 23 12-0459	EA	76" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	2,025.71	148.13
23 09 23 12-0460	EA	76" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	2,042.75	148.13
23 09 23 12-0461	EA	76" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,175.35	148.13
23 09 23 12-0462	EA	76" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,309.84	148.13
23 09 23 12-0463	EA	76" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,342.05	148.13
23 09 23 12-0464	EA	76" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,506.17	162.94
23 09 23 12-0465	EA	76" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	3,259.61	162.94
23 09 23 12-0466	EA	76" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	3,259.61	162.94
23 09 23 12-0467	EA	76" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	3,309.81	162.94
23 09 23 12-0468	EA	80" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,732.78	133.31
23 09 23 12-0469	EA	80" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,757.41	133.31
23 09 23 12-0470	EA	80" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,927.20	148.13
23 09 23 12-0471	EA	80" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	2,073.06	148.13
23 09 23 12-0472	EA	80" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	2,086.32	148.13
23 09 23 12-0473	EA	80" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,226.50	148.13
23 09 23 12-0474	EA	80" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,368.57	148.13
23 09 23 12-0475	EA	80" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,437.98	162.94
23 09 23 12-0476	EA	80" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,576.26	162.94
23 09 23 12-0477	EA	80" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	3,259.61	162.94
23 09 23 12-0478	EA	80" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	3,259.61	162.94
23 09 23 12-0479	EA	80" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	3,309.81	162.94
23 09 23 12-0480	EA	84" x 40" Low Leakage Volume Control Damper (Ruskin CD50)	1,768.77	133.31
23 09 23 12-0481	EA	84" x 44" Low Leakage Volume Control Damper (Ruskin CD50)	1,815.44	148.13
23 09 23 12-0482	EA	84" x 48" Low Leakage Volume Control Damper (Ruskin CD50)	1,959.41	148.13
23 09 23 12-0483	EA	84" x 52" Low Leakage Volume Control Damper (Ruskin CD50)	2,122.31	148.13
23 09 23 12-0484	EA	84" x 56" Low Leakage Volume Control Damper (Ruskin CD50)	2,129.89	148.13
23 09 23 12-0485	EA	84" x 60" Low Leakage Volume Control Damper (Ruskin CD50)	2,262.49	148.13
23 09 23 12-0486	EA	84" x 64" Low Leakage Volume Control Damper (Ruskin CD50)	2,443.66	162.94
23 09 23 12-0487	EA	84" x 68" Low Leakage Volume Control Damper (Ruskin CD50)	2,485.33	162.94
23 09 23 12-0488	EA	84" x 72" Low Leakage Volume Control Damper (Ruskin CD50)	2,625.51	162.94
23 09 23 12-0489	EA	84" x 76" Low Leakage Volume Control Damper (Ruskin CD50)	3,401.20	162.94
23 09 23 12-0490	EA	84" x 80" Low Leakage Volume Control Damper (Ruskin CD50)	3,401.20	162.94
23 09 23 12-0491	EA	84" x 84" Low Leakage Volume Control Damper (Ruskin CD50)	3,476.50	162.94

23 09 23 12-0492 Rectangular Volume Control Dampers (TAMCO) (23 09 23 12)

Note: Excludes actuators.

23 09 23 12-0493 Air-Foil Control Damper (TAMCO Series 1000) (23 09 23 12-0492)

23 09 23 12-0494	EA	12" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	227.35	44.44
23 09 23 12-0495	EA	12" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	273.03	59.25



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 12-0496	EA	12" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	289.10	59.25	
23 09 23 12-0497	EA	12" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	352.84	74.07	
23 09 23 12-0498	EA	12" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	362.62	74.07	
23 09 23 12-0499	EA	12" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	372.39	74.07	
23 09 23 12-0500	EA	12" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	418.02	88.87	
23 09 23 12-0501	EA	16" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	258.93	59.25	
23 09 23 12-0502	EA	16" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	260.88	59.25	
23 09 23 12-0503	EA	16" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	326.10	74.07	
23 09 23 12-0504	EA	16" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	361.70	74.07	
23 09 23 12-0505	EA	16" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	405.30	88.87	
23 09 23 12-0506	EA	16" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	437.80	88.87	
23 09 23 12-0507	EA	16" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	470.31	88.87	
23 09 23 12-0508	EA	20" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	294.04	59.25	
23 09 23 12-0509	EA	20" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	326.10	74.07	
23 09 23 12-0510	EA	20" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	351.30	74.07	
23 09 23 12-0511	EA	20" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	421.55	88.87	
23 09 23 12-0512	EA	20" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	462.18	88.87	
23 09 23 12-0513	EA	20" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	532.45	103.69	
23 09 23 12-0514	EA	20" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	573.08	103.69	
23 09 23 12-0515	EA	24" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	294.41	74.07	
23 09 23 12-0516	EA	24" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	343.17	74.07	
23 09 23 12-0517	EA	24" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	406.92	88.87	
23 09 23 12-0518	EA	24" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	452.76	88.87	
23 09 23 12-0519	EA	24" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	528.22	103.69	
23 09 23 12-0520	EA	24" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	574.06	103.69	
23 09 23 12-0521	EA	24" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	619.89	103.69	
23 09 23 12-0522	EA	28" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	324.60	74.07	
23 09 23 12-0523	EA	28" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	402.34	88.87	
23 09 23 12-0524	EA	28" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	445.11	88.87	
23 09 23 12-0525	EA	28" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	528.22	103.69	
23 09 23 12-0526	EA	28" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	581.70	103.69	
23 09 23 12-0527	EA	28" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	635.16	103.69	
23 09 23 12-0528	EA	28" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	688.64	103.69	
23 09 23 12-0529	EA	32" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	350.27	74.07	
23 09 23 12-0530	EA	32" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	435.03	88.87	
23 09 23 12-0531	EA	32" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	513.67	103.69	
23 09 23 12-0532	EA	32" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	574.91	103.69	
23 09 23 12-0533	EA	32" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	636.18	103.69	
23 09 23 12-0534	EA	32" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	697.44	103.69	
23 09 23 12-0535	EA	32" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	788.32	118.50	
23 09 23 12-0536	EA	36" x 12" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	384.49	88.87	
23 09 23 12-0537	EA	36" x 16" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	453.40	88.87	
23 09 23 12-0538	EA	36" x 20" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	551.96	103.69	
23 09 23 12-0539	EA	36" x 24" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	590.97	103.69	
23 09 23 12-0540	EA	36" x 28" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	654.88	103.69	
23 09 23 12-0541	EA	36" x 32" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	748.43	118.50	
23 09 23 12-0542	EA	36" x 36" Aluminum, Air-Foil Control Damper (TAMCO Series 1000)	812.37	118.50	
23 09 23 12-0543 Ultra Low Leakage, Air-Foil Control Damper (TAMCO Series 1500) (23 09 23 12-0492)					
23 09 23 12-0544	EA	12" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	233.20	44.44	
23 09 23 12-0545	EA	12" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	279.52	59.25	
23 09 23 12-0546	EA	12" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	296.24	59.25	
23 09 23 12-0547	EA	12" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	361.41	74.07	
23 09 23 12-0548	EA	12" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	371.51	74.07	
23 09 23 12-0549	EA	12" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	381.59	74.07	
23 09 23 12-0550	EA	12" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	427.89	88.87	
23 09 23 12-0551	EA	16" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	264.78	59.25	
23 09 23 12-0552	EA	16" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	266.73	59.25	
23 09 23 12-0553	EA	16" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	333.42	74.07	
23 09 23 12-0554	EA	16" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	370.48	74.07	
23 09 23 12-0555	EA	16" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	414.39	88.87	
23 09 23 12-0556	EA	16" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	448.21	88.87	
23 09 23 12-0557	EA	16" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	482.01	88.87	
23 09 23 12-0558	EA	20" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	301.35	59.25	
23 09 23 12-0559	EA	20" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	333.42	74.07	
23 09 23 12-0560	EA	20" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	359.42	74.07	
23 09 23 12-0561	EA	20" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	431.30	88.87	
23 09 23 12-0562	EA	20" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	473.57	88.87	
23 09 23 12-0563	EA	20" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	545.44	103.69	
23 09 23 12-0564	EA	20" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	587.71	103.69	
23 09 23 12-0565	EA	24" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	300.26	74.07	
23 09 23 12-0566	EA	24" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	350.97	74.07	
23 09 23 12-0567	EA	24" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	418.29	88.87	
23 09 23 12-0568	EA	24" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	466.41	88.87	
23 09 23 12-0569	EA	24" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	544.16	103.69	
23 09 23 12-0570	EA	24" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	592.25	103.69	
23 09 23 12-0571	EA	24" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	640.37	103.69	
23 09 23 12-0572	EA	28" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	333.36	74.07	
23 09 23 12-0573	EA	28" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	413.49	88.87	
23 09 23 12-0574	EA	28" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	458.39	88.87	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 23 12-0575	EA	28" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	544.16	103.69
23 09 23 12-0576	EA	28" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	600.27	103.69
23 09 23 12-0577	EA	28" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	656.40	103.69
23 09 23 12-0578	EA	28" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	712.53	103.69
23 09 23 12-0579	EA	32" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	359.81	74.07
23 09 23 12-0580	EA	32" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	447.16	88.87
23 09 23 12-0581	EA	32" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	528.10	103.69
23 09 23 12-0582	EA	32" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	592.25	103.69
23 09 23 12-0583	EA	32" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	656.40	103.69
23 09 23 12-0584	EA	32" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	720.55	103.69
23 09 23 12-0585	EA	32" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	814.32	118.50
23 09 23 12-0586	EA	36" x 12" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	394.24	88.87
23 09 23 12-0587	EA	36" x 16" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	466.41	88.87
23 09 23 12-0588	EA	36" x 20" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	563.20	103.69
23 09 23 12-0589	EA	36" x 24" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	640.37	103.69
23 09 23 12-0590	EA	36" x 28" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	712.53	103.69
23 09 23 12-0591	EA	36" x 32" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	814.32	118.50
23 09 23 12-0592	EA	36" x 36" Ultra Low Leakage, Aluminum, Air-Foil Control Damper (TAMCO Series 1500)	886.48	118.50

23 09 23 12-0593 Thermally Insulated Damper (TAMCO Series 9000) (23 09 23 12-0493)

23 09 23 12-0594	EA	12" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	272.21	44.44
23 09 23 12-0595	EA	12" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	322.80	59.25
23 09 23 12-0596	EA	12" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	343.77	59.25
23 09 23 12-0597	EA	12" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	418.46	74.07
23 09 23 12-0598	EA	12" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	430.74	74.07
23 09 23 12-0599	EA	12" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	443.03	74.07
23 09 23 12-0600	EA	12" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	493.71	88.87
23 09 23 12-0601	EA	16" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	303.79	59.25
23 09 23 12-0602	EA	16" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	305.74	59.25
23 09 23 12-0603	EA	16" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	382.18	74.07
23 09 23 12-0604	EA	16" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	428.99	74.07
23 09 23 12-0605	EA	16" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	475.07	88.87
23 09 23 12-0606	EA	16" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	517.55	88.87
23 09 23 12-0607	EA	16" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	560.03	88.87
23 09 23 12-0608	EA	20" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	350.11	59.25
23 09 23 12-0609	EA	20" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	382.18	74.07
23 09 23 12-0610	EA	20" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	413.60	74.07
23 09 23 12-0611	EA	20" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	496.31	88.87
23 09 23 12-0612	EA	20" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	549.42	88.87
23 09 23 12-0613	EA	20" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	632.14	103.69
23 09 23 12-0614	EA	20" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	685.23	103.69
23 09 23 12-0615	EA	24" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	339.27	74.07
23 09 23 12-0616	EA	24" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	402.99	74.07
23 09 23 12-0617	EA	24" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	483.32	88.87
23 09 23 12-0618	EA	24" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	544.43	88.87
23 09 23 12-0619	EA	24" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	635.16	103.69
23 09 23 12-0620	EA	24" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	696.29	103.69
23 09 23 12-0621	EA	24" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	757.39	103.69
23 09 23 12-0622	EA	28" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	383.41	74.07
23 09 23 12-0623	EA	28" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	477.19	88.87
23 09 23 12-0624	EA	28" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	534.24	88.87
23 09 23 12-0625	EA	28" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	635.16	103.69
23 09 23 12-0626	EA	28" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	706.47	103.69
23 09 23 12-0627	EA	28" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	777.76	103.69
23 09 23 12-0628	EA	28" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	849.06	103.69
23 09 23 12-0629	EA	32" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	417.03	74.07
23 09 23 12-0630	EA	32" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	519.99	88.87
23 09 23 12-0631	EA	32" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	614.80	103.69
23 09 23 12-0632	EA	32" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	696.29	103.69
23 09 23 12-0633	EA	32" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	777.76	103.69
23 09 23 12-0634	EA	32" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	859.24	103.69
23 09 23 12-0635	EA	32" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	970.35	118.50
23 09 23 12-0636	EA	36" x 12" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	452.76	88.87
23 09 23 12-0637	EA	36" x 16" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	544.43	88.87
23 09 23 12-0638	EA	36" x 20" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	665.72	103.69
23 09 23 12-0639	EA	36" x 24" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	756.09	103.69
23 09 23 12-0640	EA	36" x 28" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	847.54	103.69
23 09 23 12-0641	EA	36" x 32" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	968.61	118.50
23 09 23 12-0642	EA	36" x 36" Aluminum, Thermally Insulated Damper (TAMCO Series 9000)	1,060.07	118.50

23 09 23 12-0643 Thermally Broken Frame Damper (TAMCO Series 9000 BF) (23 09 23 12-0492)

23 09 23 12-0644	EA	12" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	305.36	44.44
23 09 23 12-0645	EA	12" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	359.59	59.25
23 09 23 12-0646	EA	12" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	384.18	59.25
23 09 23 12-0647	EA	12" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	466.94	74.07
23 09 23 12-0648	EA	12" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	481.10	74.07
23 09 23 12-0649	EA	12" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	495.26	74.07
23 09 23 12-0650	EA	12" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	549.67	88.87
23 09 23 12-0651	EA	16" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF)	336.94	59.25



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 12-0652	EA	16" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	338.90	59.25
23 09 23 12-0653	EA	16" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	423.62	74.07
23 09 23 12-0654	EA	16" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	478.72	74.07
23 09 23 12-0655	EA	16" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	526.66	88.87
23 09 23 12-0656	EA	16" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	576.49	88.87
23 09 23 12-0657	EA	16" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	626.34	88.87
23 09 23 12-0658	EA	20" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	391.56	59.25
23 09 23 12-0659	EA	20" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	423.62	74.07
23 09 23 12-0660	EA	20" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	459.65	74.07
23 09 23 12-0661	EA	20" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	551.58	88.87
23 09 23 12-0662	EA	20" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	613.88	88.87
23 09 23 12-0663	EA	20" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	705.82	103.69
23 09 23 12-0664	EA	20" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	768.12	103.69
23 09 23 12-0665	EA	24" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	372.43	74.07
23 09 23 12-0666	EA	24" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	447.18	74.07
23 09 23 12-0667	EA	24" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	522.33	88.87
23 09 23 12-0668	EA	24" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	591.23	88.87
23 09 23 12-0669	EA	24" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	689.77	103.69
23 09 23 12-0670	EA	24" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	758.70	103.69
23 09 23 12-0671	EA	24" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	827.61	103.69
23 09 23 12-0672	EA	28" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	413.44	74.07
23 09 23 12-0673	EA	28" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	515.42	88.87
23 09 23 12-0674	EA	28" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	579.75	88.87
23 09 23 12-0675	EA	28" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	689.77	103.69
23 09 23 12-0676	EA	28" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	770.19	103.69
23 09 23 12-0677	EA	28" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	850.58	103.69
23 09 23 12-0678	EA	28" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	930.98	103.69
23 09 23 12-0679	EA	32" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	451.36	74.07
23 09 23 12-0680	EA	32" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	563.68	88.87
23 09 23 12-0681	EA	32" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	666.82	103.69
23 09 23 12-0682	EA	32" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	758.70	103.69
23 09 23 12-0683	EA	32" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	850.58	103.69
23 09 23 12-0684	EA	32" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	942.47	103.69
23 09 23 12-0685	EA	32" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	1,063.97	118.50
23 09 23 12-0686	EA	36" x 12" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	487.86	88.87
23 09 23 12-0687	EA	36" x 16" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	591.23	88.87
23 09 23 12-0688	EA	36" x 20" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	724.24	103.69
23 09 23 12-0689	EA	36" x 24" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	826.30	103.69
23 09 23 12-0690	EA	36" x 28" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	929.46	103.69
23 09 23 12-0691	EA	36" x 32" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	1,062.23	118.50
23 09 23 12-0692	EA	36" x 36" Aluminum, Thermally Broken Frame Damper (TAMCO Series 9000 BF).....	1,165.39	118.50
23 09 23 12-0693 Rectangular Galvanized Volume Control Dampers (23 09 23 12)				
Note: Excludes actuators.				
23 09 23 12-0694	EA	8" x 8" Low Leakage Volume Control Damper (Johnson Controls VOPSN-008X008).....	208.55	36.74
23 09 23 12-0695	EA	10" x 10" Low Leakage Volume Control Damper (Johnson Controls VOPSN-010X010).....	235.38	40.29
23 09 23 12-0696	EA	12" x 12" Low Leakage Volume Control Damper (Johnson Controls VOPSN-012X012).....	263.36	44.44
23 09 23 12-0697	EA	14" x 14" Low Leakage Volume Control Damper (Johnson Controls VOPSN-014X014).....	304.29	52.14
23 09 23 12-0698	EA	16" x 16" Low Leakage Volume Control Damper (Johnson Controls VOPSN-016X016).....	344.04	59.25
23 09 23 12-0699	EA	18" x 18" Low Leakage Volume Control Damper (Johnson Controls VOPSN-018X018).....	346.08	66.66
23 09 23 12-0700	EA	20" x 20" Low Leakage Volume Control Damper (Johnson Controls VOPSN-020X020).....	426.89	74.07
23 09 23 12-0701	EA	24" x 24" Low Leakage Volume Control Damper (Johnson Controls VOPSN-024X024).....	509.69	88.87
23 09 23 12-0702	EA	32" x 32" Low Leakage Volume Control Damper (Johnson Controls VOPSN-032X032).....	657.42	103.69
23 09 23 12-0703	EA	48" x 48" Low Leakage Volume Control Damper (Johnson Controls VOPSN-048X048).....	985.98	118.50
23 09 23 12-0704	EA	60" x 60" Low Leakage Volume Control Damper (Johnson Controls VOPSN-060X060).....	1,831.63	133.31
23 09 23 12-0705	EA	72" x 72" Low Leakage Volume Control Damper (Johnson Controls VOPSN-072X072).....	2,332.56	148.13
23 09 23 12-0706 Round Galvanized Control Dampers (23 09 23 12)				
Note: Excludes actuators.				
23 09 23 12-0707	EA	6" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG06).....	201.04	41.48
23 09 23 12-0708	EA	8" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG08).....	207.07	44.44
23 09 23 12-0709	EA	10" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG10).....	216.53	44.44
23 09 23 12-0710	EA	12" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG12).....	240.09	50.37
23 09 23 12-0711	EA	14" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG14).....	275.19	50.37
23 09 23 12-0712	EA	16" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG16).....	297.23	59.25
23 09 23 12-0713	EA	18" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG18).....	399.80	62.37
23 09 23 12-0714	EA	20" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG20).....	418.19	64.64
23 09 23 12-0715	EA	22" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG22).....	443.39	69.69
23 09 23 12-0716	EA	24" Diameter Round Low Leakage Volume Control Damper (Johnson Controls RCG24).....	469.13	74.73
23 09 23 12-0717 Remote Damper Control (23 09 23 12)				
23 09 23 12-0718	EA	Remote Cable Control Concealed Ceiling Regulator For Damper (Young Regulator Co. 270-275B).....	282.30	
		For Each 10' Flexible Casing And Wire, Add	41.36	
23 09 23 12-0719	EA	Remote Cable Control Concealed Ceiling Regulator For Damper (Young Regulator Co. 270-301B).....	290.77	
		For Each 10' Flexible Casing And Wire, Add	41.36	
23 09 23 12-0720 Control Damper Actuators (23 09 23 12)				

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 12-0721	EA	44	IN-LB, 24 Volt AC, 4-20mA, 2-10 Volt DC, Proportional Control, Non-Spring Return Direct Coupled Control Damper Actuator (Belimo LMB24-SR).....	517.80	97.90
23 09 23 12-0722	EA	90	IN-LB, 24 Volt AC/DC, 4-20mA, 2-10 Volt DC, Proportional Control, Non-Spring Return Direct Coupled Control Damper Actuator (Belimo NMB24-SR).....	562.26	97.90
23 09 23 12-0723	EA	90	IN-LB, 2 Position, 24 To 240 Volt AC Spring Return Direct Coupled Control Damper Actuator (Belimo NFBUP).....	635.10	97.90
23 09 23 12-0724	EA	175	IN-LB, 24 Volt AC, 4-20mA, 2-10 Volt DC, Proportional Control, Non-Spring Return Direct Coupled Control Damper Actuator (Belimo AMB24-SR).....	669.90	97.90
23 09 23 12-0725	EA	90	IN-LB, 24 Volt AC, 4-20mA, 2-10 Volt DC, Proportional Control, Spring Return Direct Coupled Control Damper Actuator (Belimo NFB24-SR).....	690.55	97.90
23 09 23 12-0726	EA	360	IN-LB, 24 Volt AC, 4-20mA, 2-10 Volt DC, Proportional Control, Non-Spring Return Direct Coupled Control Damper Actuator (Belimo GMB24-SR).....	771.76	97.90
23 09 23 13 Energy Meters (23 09 23)					
23 09 23 13-0001 Surge Protectors (23 09 23 13)					
23 09 23 13-0002	EA		Surge Protector, T100's, Summit, BCU, UPCM, PCM, TCM (Transtector TR2255).....	354.96	9.86
23 09 23 13-0003	EA		Surge Protector, 1AC Outlet (Transtector TR2251).....	267.80	9.86
23 09 23 13-0004	EA		Surge Protector, 2 AC Outlets (Transtector TR2254).....	417.77	9.86
23 09 23 13-0005	EA		Surge Protector, DB-15 Connection (Transtector TR2259-DLP15).....	225.24	9.86
23 09 23 13-0006	EA		Surge Protector, DB-25 Connection (Transtector TR2259-DLP25).....	225.24	9.86
23 09 23 13-0007	EA		Surge Protector, DB-9 Connection (Transtector TR2259-DLP9).....	225.24	9.86
23 09 23 13-0008	EA		Surge Protector, Individual Wire Connection (Transtector TR2258).....	326.59	9.86
23 09 23 13-0009	EA		Surge Protector, Trane Communication Links (Transtector TR2257).....	200.92	9.86
23 09 23 14 Flow Instruments (23 09 23)					
23 09 23 14-0001 Water Flow Meters (23 09 23 14)					
23 09 23 14-0002	EA		Insertion Electromagnetic Water Flow Meter (Onicon F-3500)..... Note: Excludes pipe fittings.	5,292.22	98.50
23 09 23 14-0003 Air Flow Monitoring Stations (23 09 23 14)					
23 09 23 14-0004	EA		Analog Transmitter, 2 Point, 3 Sensor Air Flow Monitoring Station (Eatron GTA116)..... Note: 10' cable, 36" x 24" typical duct size.	4,155.94	113.76
23 09 23 14-0005	EA		Analog Transmitter, 3 Point, 4 Sensor Air Flow Monitoring Station (Eatron GTA116)..... Note: 10' cable, 48" x 36" typical duct size.	5,975.96	113.76
23 09 23 14-0006	EA		Analog Transmitter, 4 Point, 4 Sensor Air Flow Monitoring Station (Eatron GTA116)..... Note: 10' cable, 60" x 48" typical duct size.	7,442.37	113.76
23 09 23 16 Gas Instruments (23 09 23)					
23 09 23 16-0001 Gas Sensors (23 09 23 16)					
23 09 23 16-0002	EA		6-1/4" x 6-1/8" CO2 Sensor, 0-2,000 ppm (Kele WCO-1B).....	2,203.49	59.13
23 09 23 16-0003	EA		Wall Mounted CO2 Sensor, 0-2,000 ppm With LCD Display (Kele CD-AW-LCD).....	972.33	39.42
23 09 23 16-0004	EA		CO Monitor/Transmitter, 0 To 250 ppm (Kele GMT-CO-S2)..... Note: Solid state sensor.	1,750.31	59.13
23 09 23 16-0005	EA		CO2 Transmitter, Duct Mount, No Display, 0-10 Volt DC Out, 24 Volt AC/Volt DC, 0-10 Or 4-20mA, 0-2,000 ppm Range With CD-AD Duct Probe Assembly (CDE CD-AD-LCD; CD-AD).....	947.46	70.96
23 09 23 19 Moisture Instruments (23 09 23)					
23 09 23 19-0001 Relative Humidity Sensors (23 09 23 19)					
23 09 23 19-0002	EA		3% Duct Mounted RH Sensor (Kele HD30K).....	588.14	70.96
23 09 23 19-0003	EA		10K Ohm Thermistor 3% Duct Mounted RH Sensor (Kele HD30K-T3).....	604.33	70.96
23 09 23 19-0004	EA		3% RH Outdoor Air Sensor (Kele HO30K).....	682.92	98.55
23 09 23 19-0005	EA		2% Surface Mounted RH Transmitter (Kele HW20K).....	534.04	39.42
23 09 23 21 Motion Instruments (23 09 23)					
23 09 23 21-0001 Peco Motion Sensors (23 09 23 21)					
23 09 23 21-0002	EA		Ceiling Mount Passive Infrared, 24 Volt, Slave Motion Sensor (Peco SA200-001).....	194.58	27.71
23 09 23 21-0003	EA		Wall/Ceiling Mount Passive Infrared, 24 Volt, Slave Motion Sensor (Peco SB200-001).....	190.72	27.71
23 09 23 21-0004	EA		Wall/Ceiling Passive Infrared, 24 Volt, Master Motion Sensor (Peco SD200-001).....	255.51	27.71
23 09 23 21-0005	EA		Wall/Ceiling Mount, Passive Infrared, 24 Volt, Master Time Sensor (Peco SD200-002).....	226.92	27.71
23 09 23 21-0006	EA		Door Switch Occupancy Sensor (Peco SE200-001).....	69.79	27.71
23 09 23 21-0007	EA		Window Switch Occupancy Sensor (Peco SE200-002).....	64.47	27.71
23 09 23 21-0008	EA		Power Pack And Controller (Peco SF200-001).....	119.26	27.71
23 09 23 23 Pressure Instruments (23 09 23)					
23 09 23 23-0001 Pressure Sensors (23 09 23 23)					
23 09 23 23-0002	EA		0 To 0.5" W.C., Differential Pressure Transmitters With NEMA 1 Case (Kele T30-005).....	785.21	83.22
23 09 23 23-0003	EA		0 To 5" W.C., Differential Pressure Transmitters With NEMA 1 Case (Kele T30-050).....	698.24	83.22
23 09 23 23-0004	EA		0.05 To 12" W.C., Adjustable Differential Pressure Switches (Kele AFS-222).....	277.43	83.22
23 09 23 23-0005	EA		0.05 To 2" W.C., Adjustable Differential Pressure Switches (Kele AFS-262).....	287.53	83.22
23 09 23 23-0006	EA		0.4 To 2" W.C., Manual Reset Adjustable Differential Pressure Switches (Kele AFS-460).....	307.31	83.22



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 23-0007	EA	0.05 To 12" W.C., 1/8" NPT, Adjustable Differential Pressure Switches (Kele AFS-145)	284.60	83.22
23 09 23 23-0008	EA	0 To 100 psid, Bypass Valve Assembly Option, Water Differential Pressure Transmitter (Kele 360C-P210D-BVA) Note: Excludes pipe fittings.	2,903.38	83.22
23 09 23 23-0009	EA	0 To 60 psid, Bypass Valve Assembly Option, Water Differential Pressure Transmitter (Kele 360C-P160D-BVA) Note: Excludes pipe fittings.	2,903.38	83.22
23 09 23 23-0010	EA	Magnahelic Gauge	754.76	50.87
23 09 23 27 Temperature Instruments (23 09 23)				
23 09 23 27-0001 Air Temperature Sensors (23 09 23 27)				
23 09 23 27-0002	EA	10K Ohm Thermistor Duct Temperature Sensor (Kele ST-D24)	215.19	70.96
23 09 23 27-0003	EA	10K Ohm Thermistor Duct Temperature Sensor, 1/2" LB Conduit Fitting (Kele ST-D24-XCO)	302.16	70.96
23 09 23 27-0004	EA	10K Ohm Thermistor Duct Temperature Sensor With Greenfield Fitting (Kele ST-D24-XG)	225.19	70.96
23 09 23 27-0005	EA	10K Ohm Thermistor Duct Temperature Sensor With Handibox Housing (Kele ST-D24-XH)	235.45	70.96
23 09 23 27-0006	EA	10K Ohm Thermistor Duct Temperature Sensor With Handibox Housing, 18" Probe (Kele ST-D24-XH-XL18)	238.87	70.96
23 09 23 27-0007	EA	10K Ohm Thermistor Duct Temperature Sensor With Handibox Housing, 6" Probe (Kele ST-D24-XH-XL6)	235.49	70.96
23 09 23 27-0008	EA	10K Ohm Thermistor Duct Temperature Sensor With Non-Metallic Handibox Housing (Kele ST-D24-XHP)	237.31	70.96
23 09 23 27-0009	EA	10K Ohm Thermistor Duct Temperature Sensor With 4" Probe (Kele ST-D24-XL4)	254.59	70.96
23 09 23 27-0010	EA	10K Ohm Thermistor Duct Temperature Sensor With Weatherproof Housing (Kele ST-D24-XW)	269.68	70.96
23 09 23 27-0011	EA	10K Ohm Thermistor Outdoor Air Temperature Sensor (Kele ST-O24)	326.33	98.55
23 09 23 27-0012	EA	10K Ohm Thermistor Outdoor Air Temperature Sensor With 25' Lead (Kele ST-O24-XC25)	337.95	98.55
23 09 23 27-0013	EA	Delta Style Surface Mounted 10K Ohm Thermistor Room Temperature Sensor (Kele BA/10K3-R-N-DF)	147.68	39.42
23 09 23 27-0014	EA	Delta Style Surface Mounted AD592 Room Temperature Sensor (Kele BA/592-10K-R)	151.95	39.42
23 09 23 27-0015	EA	Stainless Steel Plate 1K Ohm Room Temperature Sensor (Kele BA/1K8-SP)	140.73	39.42
23 09 23 27-0016 Water Temperature Sensors (23 09 23 27)				
23 09 23 27-0017	EA	5" Immersion 20K Ohm Water Temp Sensor (Honeywell C7041D2001)	173.53	76.26
23 09 23 27-0018	EA	Strap-On 20K Ohm Water Temp Sensor (Honeywell C7041K2005)	393.31	76.26
23 09 23 27-0019 Peco Thermostats (23 09 23 27)				
23 09 23 27-0020	EA	3 Heating Stage, 2 Cooling Stage Programmable Thermostat With Humidification/Dehumidification Control (Peco T12532-IAQ)	407.60	18.48
23 09 23 27-0021	EA	3 Heating Stage, 2 Cooling Stage Programmable Thermostat (Peco T12532-001)	363.28	18.48
23 09 23 53 Proprietary Control Systems (23 09 23)				
23 09 23 53-0001 EMCS General Costs (23 09 23 53)				
23 09 23 53-0002 EMCS System Design Services (23 09 23 53-0001)				
Note: Hourly labor rates for use with Site Inspection, Project Management, Engineering, Design, Programming, Training and Technical Support.				
23 09 23 53-0003	HR	EMCS Site Inspection Of Existing Facilities	304.89	
23 09 23 53-0004	HR	EMCS Engineering Project Management	304.89	
23 09 23 53-0005	HR	EMCS System Engineering, Schematic Design And Layout	323.37	
23 09 23 53-0006	HR	EMCS System Software Programming And Graphics Programming	323.37	
23 09 23 53-0007	HR	EMCS Graphics Picture Creation	207.95	
23 09 23 53-0008	HR	EMCS System Controls Training	304.89	
23 09 23 53-0009	HR	EMCS On Site System Diagnostics Field Technician	304.89	
23 09 23 53-0010	HR	EMCS Remote Technical Support Using Phone Or Internet	254.14	
23 09 23 53-0011	HR	EMCS Travel Time (All Personnel)	263.38	
23 09 23 53-0012 Field Tests, Checkout And Commissioning (23 09 23 53-0001)				
Note: A point is defined as any transmitter, switch, actuator, sensor or device (starter, VFD, controller, fan, electric coil, actuator, valve, etc.) that is monitored or controlled by the EMCS system. Most devices count as 1 point. Actuators, valves and thermostats count as 2 points.				
23 09 23 53-0013	PNT	EMCS Field Test	161.75	
Note: Priced per point.				
23 09 23 53-0014	PNT	EMCS Field Checkout And Startup	161.75	
Note: Priced per point.				
23 09 23 53-0015	PNT	EMCS Field Commissioning	161.75	
Note: Priced per point.				
23 09 23 53-0016	EA	EMCS Field Balance Support	138.58	
Note: Priced per controller.				
23 09 23 53-0017 EMCS System Engineering/Submittal Design And Layout (23 09 23 53-0001)				
Note: A point is defined as any transmitter, switch, actuator, sensor or device (starter, VFD, controller, fan, electric coil, actuator, valve, etc.) that is monitored or controlled by the EMCS system. Most devices count as 1 point. Actuators, valves and thermostats count as 2 points.				
23 09 23 53-0018	PNT	EMCS System Engineering/Submittal Design And Layout	53.95	
Note: Priced per point.				
23 09 23 53-0019 Alerton Controls (23 09 23 53)				
23 09 23 53-0020	EA	50 Devices, 1 WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-SMALL)	9,815.21	
23 09 23 53-0021	EA	150 Devices, 1 WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-MEDIUM)	12,610.71	
23 09 23 53-0022	EA	Dashboard Option, 150 Devices, 1 WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-D-MEDIUM)	31,919.04	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0023 EA Unlimited Devices, 1 WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-LARGE).....	23,943.86	
23 09 23 53-0024 EA Dashboard Option, Unlimited Devices, 1 WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-D-LARGE).....	61,721.01	
23 09 23 53-0025 EA Unlimited Devices, SQL Derver Interface, Unlimited WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-ENTERPRISE).....	48,674.46	
23 09 23 53-0026 EA Dashboard Option, Unlimited Devices, SQL Derver Interface, Unlimited WEBtalk VM, Alerton Building Suite 3 (Alerton ABS-3-D-ENTERPRISE).....	74,313.38	
23 09 23 53-0027 EA Alerton Building Suite Tech License (Alerton ABS-3-TECH).....	2,063.08	
23 09 23 53-0028 EA Enterprise Edition With SQL Server Support, Envision for BACtalk v2.6 (Alerton ENV-BT-2.6-ENT1).....	28,191.69	
23 09 23 53-0029 EA Unlimited Controllers, Unlimited Workstation, Envision for BACtalk v2.6 (Alerton ENV-BT-2.6-LRG).....	20,623.66	
23 09 23 53-0030 EA 150 Controllers, 3 Workstation, Envision for BACtalk v2.6 (Alerton ENV-BT-2.6-MED).....	12,551.96	
23 09 23 53-0031 EA 50 Controllers, 1 Workstation, Envision for BACtalk v2.6 (Alerton ENV-BT-2.6-SM).....	7,754.24	
23 09 23 53-0032 EA 10 Controllers, 1 Workstation, Envision for BACtalk v2.6 (Alerton ENV-BT-2.6-XS).....	2,993.55	
23 09 23 53-0033 EA 1 Ethernet, 1 MS/TP, BACtalk Control Module (Alerton 715000100).....	5,339.94	295.66
23 09 23 53-0034 EA Foreign Protocol Converter For P1 Systems, BACtalk Control Module (Alerton BCM-FPCS).....	7,882.74	394.21
23 09 23 53-0035 EA Modbus Gateway, BACtalk Control Module (Alerton BCM-MDBS).....	7,780.32	394.21
23 09 23 53-0036 EA V.90/56K Modem, BACtalk Control Module (Alerton BCM-MDM).....	2,863.43	295.66
23 09 23 53-0037 EA 1 MS/TP, BACtalk Control Module (Alerton 715000300).....	3,463.67	295.66
23 09 23 53-0038 EA Power Supply, BACtalk Control Module (Alerton BCM-PWS).....	2,678.73	295.66
23 09 23 53-0039 EA 1 TUX Trunk, BACtalk Control Module (Alerton BCM-TUX).....	3,326.00	295.66
23 09 23 53-0040 EA Web Server And Configurator CD, BACtalk Control Module (Alerton BCM-WEB).....	7,833.23	295.66
23 09 23 53-0041 EA BACtalk Field Level Gateway For Modbus (Alerton FLG-MODBUS).....	3,612.24	394.21
23 09 23 53-0042 EA EXP BACnet Controller (Alerton VLX).....	7,933.85	788.41
23 09 23 53-0043 EA VLX BACnet High Performance Controller (Alerton VLX-PLATINUM).....	9,247.67	788.41
23 09 23 53-0044 EA Multiple Segment MS/TP Repeater (Alerton MSTP-REP).....	1,218.81	87.78
23 09 23 53-0045 EA 4 Inputs, 2 Flow Transducers, 4 Ground-Switching Binary Triac Outputs, Dual-Duct VAV Controller (Alerton VAV-DD).....	2,338.75	295.66
23 09 23 53-0046 EA 4 Inputs, 2 Flow Transducers, 3 Binary Triac Outputs, 4 Ground-Switching Binary Triac Outputs, Dual-Duct VAV Controller (Alerton VAV-DD7).....	2,477.27	295.66
23 09 23 53-0047 EA 4 Inputs, 1 Flow Transducers, 3 Hot-Switching Binary Triac Outputs, 2 Ground-Switching Binary Triac Outputs, Single-Duct VAV Controller (Alerton VAV-SD).....	1,998.76	295.66
23 09 23 53-0048 EA 4 Universal Inputs, 5 Binary Outputs, 2 Analog Outputs, Single-Duct VAV Controller (Alerton VAV-SD2A).....	2,191.85	295.66
23 09 23 53-0049 EA 5 Universal Inputs, 6 Binary Outputs, Integral Honeywell Actuator, Single-Duct VAV Controller (Alerton VAVIH-SD).....	2,183.45	295.66
23 09 23 53-0050 EA 11 Inputs, 8 Binary Triac Outputs, 8 Analog Outputs, BACtalk Field Controller For Central Plant Systems (Alerton VLC-1188).....	3,291.58	295.66
23 09 23 53-0051 EA 16 Inputs, BACtalk Field Controller (Alerton VLC-1600).....	2,528.48	295.66
23 09 23 53-0052 EA 16 Inputs, 16 Binary Triac Outputs, BACtalk Field Controller (Alerton VLC-16160).....	3,792.75	394.21
23 09 23 53-0053 EA 4 Universal Inputs, 4 Binary Outputs, 4 Analog Outputs, Field Controller (Alerton VLC-444).....	1,679.79	197.11
23 09 23 53-0054 EA 5 Inputs, 5 Binary Outputs, BACtalk Field Controller (Alerton VLC-550).....	1,624.37	197.11
23 09 23 53-0055 EA 6 Inputs, 2 Binary Triac Outputs, 3 Isolated Relay Outputs, BACtalk Field Controller (Alerton VLC-651R).....	2,204.43	295.66
23 09 23 53-0056 EA 6 Inputs, 3 Binary Triac Outputs, 3 Isolated Relay Outputs, BACtalk Field Controller (Alerton VLC-660R).....	2,204.43	295.66
23 09 23 53-0057 EA 8 Inputs, 5 Binary Triac Outputs, 3 Analog Outputs, BACtalk Field Controller (Alerton VLC-853).....	2,651.88	295.66
23 09 23 53-0058 EA 16 Universal Inputs, 8 Binary Outputs, 8 Analog Outputs, Field Controller (Alerton VLCA-1688).....	5,262.70	394.21
23 09 23 53-0059 EA 2 Fixed Inputs, 3 Universal Inputs, 6 Binary Outputs, 2 Analog Outputs, VisualLogic Display Controller (Alerton VLD-362).....	2,284.18	295.66
23 09 23 53-0060 EA Wireless Door Contact Sensor (Alerton AL-OC-DS).....	155.00	11.09
23 09 23 53-0061 EA One-Speed BACtalk Microset Wall Sensor (Alerton MS-1010-BT).....	252.72	11.09
23 09 23 53-0062 EA One-Speed BACtalk Microset Wall Sensor With RH Sensor (Alerton MS-1010H-BT).....	648.95	11.09
23 09 23 53-0063 EA Three-Speed BACtalk Microset Wall Sensor (Alerton MS-1030-BT).....	648.95	11.09
23 09 23 53-0064 EA Three-Speed BACtalk Microset Wall Sensor With RH Sensor (Alerton MS-1030H-BT).....	504.58	11.09
23 09 23 53-0065 EA BACnet-Compliant Wall Sensor (Alerton TS-1050-BT).....	168.78	11.09
23 09 23 53-0066 EA Wireless Temperature And Humidity Sensor (Alerton WTS-1000-KIT).....	685.06	11.09
23 09 23 53-0067 EA Wireless Temperature And Humidity Sensor With Temperature Adjustment Knob And Manual Override (Alerton WTS-1050-KIT).....	769.02	11.09
23 09 23 53-0068 EA 10 12-Bit Inputs, 12 Binary Triac Outputs Expansion Module (Alerton EXP-10-12-0).....	3,283.19	295.66
23 09 23 53-0069 EA 10 12-Bit Inputs, 4 Binary Triac Outputs Expansion Module (Alerton EXP-10-4-8).....	3,489.69	295.66
23 09 23 53-0070 EA 22 12-Bit Inputs Expansion Module (Alerton EXP-22-0-0).....	3,311.73	295.66
23 09 23 53-0071 EA 50 Devices, Ascent Compass 1 Software, Small License (Alerton Compass-1-SM).....	10,633.93	
23 09 23 53-0072 EA Global Controller Base Unit (Alerton ACM).....	5,796.79	295.66
23 09 23 53-0073 EA External Battery Pack For ACM (Alerton ACM-BATT).....	1,259.17	164.46
23 09 23 53-0074 EA Licenses The ACM For Capacity Of 32 Directly Connected Devices (Alerton ACM032).....	1,040.11	
23 09 23 53-0075 EA Microset 4 Wall Sensor (Alerton MS4-THC).....	1,190.49	11.09
23 09 23 53-0076 Automated Logic Controls (23 09 23 53)		
23 09 23 53-0077 EA 0 Digital Outputs, 8 Universal Inputs, 0 Analog Outputs Standalone Control Module (Automated Logic M0100).....	3,700.13	295.66
23 09 23 53-0078 EA 0 Digital Outputs, 32 Universal Inputs, 0 Analog Outputs Standalone Control Module (Automated Logic M0320).....	8,280.35	886.97
23 09 23 53-0079 EA 2 Digital Outputs, 2 Universal Inputs, 0 Analog Outputs Standalone Control Module (Automated Logic M220nx).....	2,555.02	295.66
23 09 23 53-0080 EA 4 Digital Outputs, 10 Universal Inputs, 6 Analog Outputs Standalone Control Module (Automated Logic M4106nx).....	5,389.28	394.21
23 09 23 53-0081 EA 8 Digital Outputs, 10 Universal Inputs, 2 Analog Outputs Standalone Control Module (Automated Logic M8102nx).....	5,303.82	394.21
23 09 23 53-0082 EA 16 Digital Outputs, 16 Universal Inputs, 0 Analog Outputs Standalone Control Module (Automated Logic M16160).....	8,556.69	788.41
23 09 23 53-0083 EA 8 Digital Outputs, 8 Universal Inputs, 0 Analog Outputs Standalone Control Module (Automated Logic M880nx).....	4,748.36	394.21
23 09 23 53-0084 EA 0 Digital Outputs, 32 Universal Inputs, 0 Analog Outputs Expander Control Module (Automated Logic MX0320).....	4,759.78	295.66
23 09 23 53-0085 EA 16 Digital Outputs, 16 Universal Inputs, 0 Analog Outputs Expander Control Module (Automated Logic MX16160).....	8,043.96	788.41
23 09 23 53-0086 EA No Display, Interior Wall Mounted, Standalone Controller For Heat Pumps, Fan Coil Units And Other Packaged HVAC Equipment (Automated Logic RC642).....	1,931.10	197.11
23 09 23 53-0087 EA With Display, Interior Wall Mounted, Standalone Controller For Heat Pumps, Fan Coil Units And Other Packaged HVAC Equipment (Automated Logic RC642D).....	2,064.37	197.11
23 09 23 53-0088 EA 3 Digital Outputs, 4 Universal Inputs, 1 Analog Outputs Controller For Pressure Independent VAV Applications (Automated Logic ZN341+).....	2,790.78	197.11
23 09 23 53-0089 EA 1 Digital Outputs, 4 Universal Inputs, 1 Analog Outputs Controller For Pressure Independent VAV Applications (Automated Logic ZN141+).....	2,694.64	197.11



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0090 EA Air Flow Sensor And Damper Actuator Accessory For ZN341V+ Or ZN141V+ (Automated Logic ZASF).....	2,332.83	295.66
23 09 23 53-0091 EA Unlimited Points, Front End Software For Building Control (Automated Logic WC)	14,151.29	
23 09 23 53-0092 EA 500 Point, Front End Software For Building Control (Automated Logic WC500)	8,938.47	
23 09 23 53-0093 EA Enterprise Integration Option, Front End Software For Building Control (Automated Logic WC-ENTERPRISE)	11,667.52	
23 09 23 53-0094 Cypress Envirosystems Controls (23 09 23 53)		
23 09 23 53-0095 Wireless Pneumatic Thermostat (23 09 23 53-0094)		
Note: Wireless pneumatic thermostats, hub and repeaters must be installed by installers certified by the manufacturer.		
23 09 23 53-0096 EA Two-Pipe Direct Acting Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T2DP)	551.51	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct	-28.38	
For >200, Deduct	-56.71	
23 09 23 53-0097 EA Two-Pipe Reverse Acting Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T2RP)	551.51	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct	-28.38	
For >200, Deduct	-56.71	
23 09 23 53-0098 EA Single-Pipe Direct Acting Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T1DP)	551.51	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct	-28.38	
For >200, Deduct	-56.71	
23 09 23 53-0099 EA Single-Pipe Indirect Acting Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T1RP)	551.51	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct	-28.38	
For >200, Deduct	-56.71	
23 09 23 53-0100 EA Two-Pipe Direct Acting Deadband Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T2DP-DB)	627.53	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct	-32.61	
For >200, Deduct	-65.16	
23 09 23 53-0101 EA Two-Pipe Reverse Acting Deadband Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T2RP-DB)	627.53	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct	-32.61	
For >200, Deduct	-65.16	
23 09 23 53-0102 EA Single-Pipe Direct Acting Deadband Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-800-T1DP-DB)	627.53	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct	-32.61	
For >200, Deduct	-65.16	
23 09 23 53-0103 EA Single-Pipe Indirect Acting Deadband Wireless Pneumatic Thermostat (Cypress Envirosystems WPT-LoRa-T1RP-DB)	627.53	12.32
Note: One for every thermostat to be retrofitted.		
For >50 To 200, Deduct	-32.61	
For >200, Deduct	-65.16	
23 09 23 53-0104 EA Wireless Pneumatic Thermostat Blank Cover (Cypress Envirosystems WPT-800-MCOV)	44.92	12.32
Note: Optional cover.		
For >50 To 200, Deduct	-1.81	
For >200, Deduct	-3.62	
23 09 23 53-0105 EA Green Box Controller (Cypress Envirosystems GBC-830-COM)	4,964.10	12.32
Note: One unit for up to 100 thermostats.		
For 2, Deduct	-248.61	
For >2, Deduct	-496.77	
23 09 23 53-0106 EA WPT USB Hub (Cypress Envirosystems WPT-800-HUSB)	478.82	12.32
Note: One unit for up to 100 thermostats.		
For 2, Deduct	-25.94	
For >2, Deduct	-51.83	
23 09 23 53-0107 EA WPT Repeater (Cypress Envirosystems WPT-800-RWAL)	832.14	12.32
Note: One unit for up to 15 thermostats.		
For >5 To 10, Deduct	-42.84	
For >10, Deduct	-85.61	
23 09 23 53-0108 EA 24 Volt, WPT Repeater (Cypress Envirosystems WPT-800-RWAL24V)	1,019.24	12.32
Note: One unit for up to 15 thermostats.		
For >5 To 10, Deduct	-49.82	
For >10, Deduct	-99.55	
23 09 23 53-0109 Delta Controls (23 09 23 53)		
23 09 23 53-0110 Software (23 09 23 53-0109)		
Note: Excludes programming, set-up and commissioning of application.		
23 09 23 53-0111 EA Orca Software Unlimited Points License (Delta Controls DOW333-USB)	2,497.12	
23 09 23 53-0112 EA Orca Graphics Module, Delta Controls Orca View With Graphics Creation Capabilities (Delta Controls DOW333-I-USB)	4,226.04	
23 09 23 53-0113 EA Orca Historical Module, Delta Controls Historian Package With Unlimited Archiving Trend Logs (Delta Controls DHS330-HL-USB)	9,156.42	
23 09 23 53-0114 EA Web Server Unlimited Points License, Delta Controls Web Server Front End (Delta Controls DWS330-L-USB)	14,470.90	
23 09 23 53-0115 EA Web Server Limited Points (Maximum I/O 2500) License, Delta Controls Web Server Front End (Delta Controls DWS330-M-USB)	7,427.50	
23 09 23 53-0116 EA Web Server Limited Points (Maximum I/O 250) License, Delta Controls Web Server Front End (Delta Controls DWS330-S-USB)	2,497.12	
23 09 23 53-0117 EA 100 User Energy Portal, Data Collection Controller, Web PC Server Program License (Delta Controls EP-2.01)	6,018.82	
23 09 23 53-0118 EA 1,000 User Energy Portal, Data Collection Controller, Web PC Server Program License (Delta Controls EP-2.02)	7,427.50	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0119	EA	KW Meter With H8163-2400-4-3 Series, With 3, 2,400 Amperes CT's And BACnet MS/TP Interface (Delta Controls H8186-CB)	2,619.86	123.19
23 09 23 53-0120	EA	Delta Controls Touch Screen (Delta Controls DHMI-7-I)	2,866.64	
23 09 23 53-0121		EMCS Central Equipment And Controllers (23 09 23 53-0109)		
23 09 23 53-0122	EA	Fully Programmable, Native BACnet Building Controller (Delta Controls DSC-1616E + DFM1616) Note: Includes 32 Universal Inputs/32 Analog Or Binary Outputs HOA's, Twisted-Pair Ethernet Port, BACnet IP, BACnet Over Ethernet, Main LAN RS-485 BACnet MS/TP (Maximum Of 99 Devices), SubLAN (Net2) BACnet MS/TP (Maximum 99 Devices) Or Delta LINKnet At 76,800 BPS, Serial RS-232 BACnet PTP, Real-Time Clock With Lithium Battery And SRAM Backup	8,988.67	492.75
23 09 23 53-0123	EA	Fully Programmable, Native BACnet Building Controller, 16 Universal Inputs/16 Analog Or Binary Outputs HOA's, Twisted-Pair Ethernet Port, BACnet IP, BACnet Over Ethernet, Main LAN RS-485 BACnet MS/TP (Maximum Of 99 Devices), Sublan (Net2) BACnet MS/TP (Maximum 99 Devices) Or Delta LINKnet At 76,800 BPS (Maximum 12 Devices On LINKnet, With 2 DFM Devices) Serial RS-232 BACnet PTP, Real-Time Clock With Lithium Battery And SRAM Backup (Delta Controls DSC-1616E).....	6,734.78	492.75
23 09 23 53-0124	EA	Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 11 Universal Inputs, 4 Analog Output Or 6 Binary (Triac) Outputs (Delta Controls DAC-1146)	4,857.71	492.75
23 09 23 53-0125	EA	Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 11 Universal Inputs, 8 Analog Or Binary Outputs (Delta Controls DAC-1180)	4,857.71	492.75
23 09 23 53-0126	EA	Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 11 Universal Inputs, 4 Analog Output Or 6 Binary (Triac) Outputs (Delta Controls DAC-1146)	4,857.71	492.75
23 09 23 53-0127	EA	Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 6 Universal Inputs, 3 Binary (Triac) Outputs And 3 Analog Outputs (Delta Controls DAC-633 R3).....	4,514.45	492.75
23 09 23 53-0128	EA	VAV Controllers Are Native BACnet Application Controllers That Are Fully Programmable, Communicate On A RS-485 LAN Using The MS/TP BACnet Protocol, 3 Universal Inputs, 4 Binary Outputs, Actuator Position Feedback, Supports 4 BACstat Network Sensors On LINKnet For Room Sensing And Control Or 2 Delta Field Modules On LINKnet For I/O Expansion (Delta Controls DVC-304AF)	1,608.86	246.38
23 09 23 53-0129	EA	Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 4 Binary Triac Outputs (24 Volt AC), 3 Binary Relay Outputs For Fan Speed Control, 240 Volt AC, 1 HP (60 LRA/10 FLA) LED Status Indication Of Each Output (Delta Controls DFC-304R3-240)	1,457.43	246.38
23 09 23 53-0130	EA	Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 6 Universal Inputs, 3 Binary (Triac) Outputs And 3 Analog Outputs (Delta Controls DAC-633 R3).....	1,557.90	246.38
23 09 23 53-0131	EA	Fully Programmable, Native BACnet Advanced Application Controller That Communicates On A RS-485 LAN Using The BACnet MS/TP Protocol, 4 Binary Triac Outputs (24 Volt AC), 3 Binary Relay Outputs For Fan Speed Control, 240 Volt AC, 1 HP (60 LRA/10 FLA) LED Status Indication Of Each Output (Delta Controls DFC-304R3-240)	1,457.43	246.38
23 09 23 53-0132	EA	Remotely Expandable I/O To Delta's BACnet Controllers, 16 Universal Inputs, 16 Analog Outputs (Delta Controls DFM-1616)	3,485.79	307.97
23 09 23 53-0133	EA	Remotely Expandable I/O To Delta's BACnet Controllers, 4 Universal Inputs, 4 Analog Outputs (Delta Controls DFM-440)	862.00	123.19
23 09 23 53-0134	EA	Remotely Expandable I/O To Delta's BACnet™ Controllers, 4 Universal Inputs, 4 Binary Triac Outputs (Delta Controls DFM-404)	925.85	123.19
23 09 23 53-0135	EA	Remotely Expandable I/O To Delta's BACnet™ Controllers, 16 Universal Inputs (Delta Controls DFM-1600).....	1,091.44	123.19
23 09 23 53-0136		Network, VAV And Special Sensors (23 09 23 53-0109)		
23 09 23 53-0137	EA	BACnet MS/TP VAV Network Room Temperature Sensor With LCD Display (Delta Controls DNS-24)	288.62	39.42
23 09 23 53-0138	EA	BACnet MS/TP VAV Network Temperature And Humidity Sensor With LCD Display (Delta Controls DNS-H24)	392.61	44.35
23 09 23 53-0139	EA	Programmable BACnet MS/TP Thermostat With 8 Button Keypad And LCD Display For DX Unit, Fan Coils And RTU (Delta Controls DAC-T305-G2B).....	777.53	18.48
23 09 23 53-0140		Honeywell Controls (23 09 23 53)		
23 09 23 53-0141		EMCS Central Equipment And Controllers (23 09 23 53-0140)		
23 09 23 53-0142		EMCS Network Area Controllers (BACnet Or Lon) (23 09 23 53-0141)		
		Note: Includes loading software, software license, loading data base and mounting on wall.		
23 09 23 53-0143	EA	Network Area Java Controller Supporting 126 Devices (Honeywell WC2003B2004)	12,529.02	600.55
		Note: Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 minimum RS-232 serial ports, 1 minimum RS-485 electrically isolated ports, 1 LonWorks port (supports 126 devices), and web user interface software.		
23 09 23 53-0144	EA	Network Area Java Controller Supporting 27 Devices (Honeywell WC2003B1022)	8,502.51	600.55
		Note: Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 RS-232 port, 1 RS-485 port, 1 LonWorks port with driver, Lon tunnel service, BACnet driver, wind river VxWorks OS with Jeode java virtual machine, Niagara control engine and web user interface software (supports 27 device).		
23 09 23 53-0145	EA	Network Area Java Controller Supporting 10 Devices (Honeywell WEB-201)	6,461.29	600.55
		Note: Includes 128 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, 1 RS-232 serial port, 1 RS-485 serial port, NDI/O port, 2 communication card option slots, BACnet IP Client, and BACnet MS/TP. Supports up to 10 devices.		
23 09 23 53-0146	EA	Network Area Java Controller Supporting 10 Devices (Honeywell WEB-201-EZ)	8,085.63	600.55
		Note: Includes 128 MB RAM / 64 MB Flash, 2 10/100 Mb ethernet ports, 1 RS-232 serial port, 1 RS-485 serial port, NDI/O port, 2 communication card option slots, BACnet IP Client, and BACnet MS/TP. Includes WEB user interface and Enterprise connectivity pack.		
23 09 23 53-0147	EA	Niagara Network Area Java Controller Supporting 10 Devices (Honeywell WEB-201-LN).....	6,405.37	600.55
		Note: Includes 128 MB RAM / 64 MB Flash, 2 10/100 Mb ethernet ports, factory installed LON card, NDI/O port and MODBus TCP driver. Excludes RS232 and RS485 communications. Includes Niagara network ethernet communication between stations.		



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0148	EA	Web UI Network Area Java Controller Supporting 10 Devices (Honeywell WEB-201-LU)..... Note: Includes 128 MB RAM / 64 MB Flash, 2 10/100 Mb ethernet ports, factory installed LON card, NDIO port and MODBus TCP driver. Excludes RS232 and RS485.	6,405.37	600.55
23 09 23 53-0149	EA	16 Point BACnet IP Network Area Java Controller (Honeywell WEB-216-B) Note: Includes 16 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.	6,967.15	600.55
23 09 23 53-0150	EA	16 Point Web UI And BACnet IP Network Area Java Controller (Honeywell WEB-216-BU)..... Note: Includes 16 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.	7,556.89	600.55
23 09 23 53-0151	EA	16 Point Niagara Network Area Java Controller (Honeywell WEB-216-N) Note: Includes 16 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.	6,967.15	600.55
23 09 23 53-0152	EA	16 Point Web UI And Niagara Network Area Java Controller (Honeywell WEB-216-NU) Note: Includes 16 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.	7,556.89	600.55
23 09 23 53-0153	EA	34 Point BACnet IP Network Area Java Controller (Honeywell WEB-234-B) Note: Includes 34 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.	7,561.98	600.55
23 09 23 53-0154	EA	34 Point Web UI and BACnet IP Network Area Java Controller (Honeywell WEB-234-BU) Note: Includes 34 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this.	8,151.72	600.55
23 09 23 53-0155	EA	34 Point Niagara Network Area Java Controller (Honeywell WEB-216-N) Note: Includes 34 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this controller.	7,561.98	600.55
23 09 23 53-0156	EA	34 Point Web UI and Niagara Network Area Java Controller (Honeywell WEB-216-NU) Note: Includes 34 IO point equipment controller consisting of a controller, one IO-16 module and BACnet IP client communications. Includes 64 MB RAM / 64 MB Flash, 2 10/100 MB ethernet ports, NDIO port and 2 communication card option slots. Excludes RS232 and RS485. The LON card is not an option on this.	8,151.72	600.55
23 09 23 53-0157	EA	Network Area Java Controller Supporting 27 Devices (Controller Only) (Honeywell WEB-403-AX)..... Note: Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 RS-485 port, 1 RS-232 port, 1 LonWorks FTT 10 port, 6 universal inputs (analog or contact/pulse input), 4 form C (SPDT) relay outputs. Excludes UI service and Enterprise connectivity service.	8,057.66	600.55
23 09 23 53-0158	EA	Unrestricted Network Area Java Controller Supporting 27 Devices (Controller Only)..... Note: Unrestricted limit on connected devices. Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 RS-485 port, 1 RS-232 port, 1 LonWorks FTT 10 port, 6 universal inputs (analog or contact/pulse input), 4 form C (SPDT) relay outputs. Excludes UI service and Enterprise connectivity service. Honeywell WEB-403-EXP-AX. As with other WEBs controllers, capacity is limited by the characteristics of the application including size and complexity.	10,027.71	600.55
23 09 23 53-0159	EA	Easy Pack Network Area Java Controller Supporting 27 Devices (Honeywell WEB-403-EZ) Note: Includes controller plus User Interface Station Pack and Enterprise Connectivity Station Pack bundled as an "easy-order" bundle. Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 RS-485 port, 1 RS-232 port, 1 LonWorks FTT 10 port, 6 universal inputs (analog or contact/pulse input), 4 form C (SPDT) relay outputs. Excludes UI service and Enterprise connectivity service.	10,635.24	600.55
23 09 23 53-0160	EA	Expanded Easy Pack Network Area Java Controller Supporting 27 Devices (Honeywell WEB-403-EXP-EZ)..... Note: Unrestricted limit on connected devices. Includes controller plus User Interface Station Pack and Enterprise Connectivity Station Pack bundled as an "easy-order" bundle. Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 1 RS-485 port, 1 RS-232 port, 1 LonWorks FTT 10 port, 6 universal inputs (analog or contact/pulse input), 4 form C (SPDT) relay outputs. Excludes UI service and Enterprise connectivity service. As with other WEBs controllers, capacity is limited by the characteristics of the application including size and complexity.	12,605.28	600.55
23 09 23 53-0161	EA	Network Area Java Controller Supporting 124 Devices (Controller Only) (Honeywell WEB-545-AX)..... Note: Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 4 RS-485 port, 2 RS-232 port, 1 LonWorks port. As with other WEBs controllers, capacity is limited by the characteristics of the application. Unit is supplied with a steel, wall mountable enclosure, and 120 volt power supply. Excludes UI service and Enterprise connectivity service.	10,663.20	600.55
23 09 23 53-0162	EA	Easy Pack Network Area Java Controller Supporting 124 Devices (Honeywell WEB-545-EZ) Note: Includes 128 MB RAM / 32 MB Flash, 10/100 MB ethernet port, 4 RS-485 port, 2 RS-232 port, 1 LonWorks port. As with other JACES, capacity is limited by the characteristics of the application. Unit is supplied with a steel, wall mountable enclosure, and 120 volt power supply. Includes WEB-545-AX plus User Interface Station Pack (UI-SP-5XX) and Enterprise Connectivity Station Pack (EC-SP-5XX) bundled as an "easy-order" bundle.	14,417.72	600.55
23 09 23 53-0163		EMCS Network Interfaces (23 09 23 53-0141) Note: Includes installation, start-up and tech labor.		
23 09 23 53-0164	EA	Serial LonTalk Adapter For LonWorks Bus And A PC (Honeywell Q7760A2001) Note: For desktop computer.	1,819.18	166.31
23 09 23 53-0165	EA	Serial LonTalk Card For LonWorks Bus And A PC (Honeywell Q7752B2009)..... Note: For laptop computer.	1,545.92	110.87
23 09 23 53-0166	EA	FTT-10 To FTT-10 Router (Honeywell Q7751A2010) Note: For desktop computer.	1,970.47	207.95
23 09 23 53-0167	EA	4FTT-10 To TP/FTT-1250 Multi Port Router (Honeywell Q7751J2002) Note: For desktop computer.	3,026.67	300.34
23 09 23 53-0168	EA	Two Way Lon Repeater (Honeywell Q7740A1008) Note: For desktop computer.	1,554.85	300.34
23 09 23 53-0169	EA	FTT Termination Module For Network Bus (Honeywell 209541B)..... Note: For desktop computer.	111.29	36.96
23 09 23 53-0170		DDC Application Specific Controller Assemblies (23 09 23 53-0141) Note: Includes submittal generation, installation, field test, checkout and start-up. Includes control enclosure, transformer, terminal strip and ancillary devices. (For example, fan coil unit include valves, actuators with controller and thermostat; VAVs include controller, thermostat and hot water valve if VAV has reheat coil). Excludes graphics and database generation. Excludes discharge air sensor.		
23 09 23 53-0171	EA	Up To 10 Factory Installed Cooling Only Or Electric Reheat VAV Or FPB Controller Assemblies Note: Includes submittal generation, installation, field test, checkout and start-up. Includes control enclosure, transformer, terminal strip and ancillary devices. (For example, fan coil unit include valves, actuators with controller and thermostat; VAVs include controller, thermostat and hot water valve if VAV has reheat coil). Excludes graphics and database generation. Excludes discharge air sensor.	2,876.59	679.12

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0172 EA >10 Factory Installed Cooling Only Or Electric Reheat VAV Or FPB Controller Assemblies.....	2,414.63	401.94
23 09 23 53-0173 EA Up To 10 Field Installed Cooling Only Or Electric Reheat VAV Or FPB Controller Assemblies.....	3,070.62	795.53
23 09 23 53-0174 EA >10 Field Installed Cooling Only Or Electric Reheat VAV Or FPB Controller Assemblies.....	2,608.66	518.36
23 09 23 53-0175 EA Up To 10 Factory Installed Steam Or Hot Water Heating VAV Or FPB Controller Assemblies.....	3,396.49	831.61
23 09 23 53-0176 EA >10 Factory Installed Steam Or Hot Water Heating VAV Or FPB Controller Assemblies.....	3,049.95	623.10
23 09 23 53-0177 EA Up To 10 Field Installed Steam Or Hot Water Heating VAV Or FPB Controller Assemblies.....	3,604.34	956.34
23 09 23 53-0178 EA >10 Field Installed Steam Or Hot Water Heating VAV Or FPB Controller Assemblies.....	3,230.05	731.87
23 09 23 53-0179 EA Up To 10 Factory Installed Application Specific Heat Pump Or Gas Heat With DX Cooling Controller Assemblies.....	2,541.51	679.02
23 09 23 53-0180 EA >10 Factory Installed Application Specific Heat Pump Or Gas Heat With DX Cooling Controller Assemblies.....	2,079.55	401.94
23 09 23 53-0181 EA Up To 10 Field Installed Application Specific Heat Pump Or Gas Heat With DX Cooling Controller Assemblies.....	2,795.66	831.61
23 09 23 53-0182 EA >10 Field Installed Application Specific Heat Pump Or Gas Heat With DX Cooling Controller Assemblies.....	2,333.58	554.36
23 09 23 53-0183 EA Up To 10 Factory Installed Application Specific Fan Coil Unit Controller Assemblies.....	3,405.78	690.21
23 09 23 53-0184 EA >10 Factory Installed Application Specific Fan Coil Unit Controller Assemblies.....	2,934.58	564.20
23 09 23 53-0185 EA Up To 10 Field Installed Application Specific Fan Coil Unit Controller Assemblies.....	3,659.92	956.32
23 09 23 53-0186 EA >10 Field Installed Application Specific Fan Coil Unit Controller Assemblies.....	3,188.60	635.65
23 09 23 53-0187 EA Up To 10 Factory Installed Application Specific Unit Ventilator Controller Assemblies.....	4,313.90	956.32
23 09 23 53-0188 EA >10 Factory Installed Application Specific Unit Ventilator Controller Assemblies.....	3,893.58	611.02
23 09 23 53-0189 EA Up To 10 Field Installed Application Specific Unit Ventilator Controller Assemblies.....	4,822.19	956.32
23 09 23 53-0190 EA >10 Field Installed Application Specific Unit Ventilator Controller Assemblies.....	4,401.74	715.73

23 09 23 53-0191**DDC Programmable Controller Assemblies (23 09 23 53-0141)**

Note: Includes installation, field test, checkout and start-up. Includes control enclosure, transformer and terminal strip only. Excludes ancillary devices. Excludes submittal generation/system engineering and database generation. See CSI section 23 09 23 53-0198 for additional components.

23 09 23 53-0192 EA 3 AO, 6 UI, 8 DO And 4 DI Small Programmable Controller Assemblies.....	2,915.73	734.58
23 09 23 53-0193 EA Oversized Enclosure 3 AO, 6 UI, 8 DO And 4 DI Small Programmable Controller Assemblies.....	3,397.71	734.58
23 09 23 53-0194 EA 6 AO, 8 AI, 8 DO And 8 DI Medium Programmable Controller Assemblies.....	4,570.64	863.93
23 09 23 53-0195 EA Oversized Enclosure 6 AO, 8 AI, 8 DO And 8 DI Medium Programmable Controller Assemblies.....	5,052.62	863.93
23 09 23 53-0196 EA 10 AO, 16 AI, 16 DO And 16 DI Large Programmable Controller Assemblies.....	8,375.56	1,011.76
23 09 23 53-0197 EA Oversized Enclosure 10 AO, 16 AI, 16 DO And 16 DI Large Programmable Controller Assemblies.....	8,932.72	1,011.76

23 09 23 53-0198**EMCS Optional DDC Controller Hardware (23 09 23 53-0141)**

Note: Used to expand the capacity of DDC programmable controller assemblies.

23 09 23 53-0199 EA 6 DO (Repay), 3 AI, 3 DI AHU Controller (Honeywell W7750A2005).....	579.57	
Note: For constant volume single zone and heat pump AHUs.		
23 09 23 53-0200 EA 6 AI, 5 DI, 8 DO (Triac) AHU Controller (Honeywell W7750B2011).....	669.81	
Note: For constant volume single zone and heat pump AHUs.		
23 09 23 53-0201 EA 3 AO, 6 AI, 5 DI, 5 DO (Triac) AHU Controller (Honeywell W7750C2001).....	701.59	
Note: For constant volume single zone and heat pump AHUs.		
23 09 23 53-0202 EA VAV Controller Compatible Printed Wiring Board (Honeywell W7751B2010).....	662.19	
23 09 23 53-0203 EA VAV Controller With Internally Wired Subbase (Honeywell W7751D2016).....	672.36	
23 09 23 53-0204 EA VAV Controller With Externally Wired Subbase (Honeywell W7751F2011).....	657.10	
23 09 23 53-0205 EA VAV Controller With Premounted ML6161 Actuator (Honeywell W7751H2025).....	565.59	
23 09 23 53-0206 EA VAV Controller With Premounted ML6161 Actuator (Honeywell W7751J2004).....	491.88	
23 09 23 53-0207 EA Fan Coil Unit Controller With Electric Reheat Relay (Honeywell W7752F2002).....	720.65	
23 09 23 53-0208 EA Fan Coil Unit Controller Without Electric Reheat Relay (Honeywell W7752G2000).....	644.39	
23 09 23 53-0209 EA Unit Ventilator Controller With Heating, Cooling, Actuator And Fan Control (Honeywell W7753A2002).....	711.76	
23 09 23 53-0210 EA Building Manager, Monitor And Control HVAC Equipment (Honeywell W7760A2011).....	1,511.21	
23 09 23 53-0211 EA Plant Controller, Monitor And Control HVAC Equipment (Honeywell W7760C2017).....	1,879.80	
23 09 23 53-0212 EA Remote IO Device For Ancillary Point Monitoring And Control (Honeywell W7761A2002).....	939.27	
23 09 23 53-0213 EA Remote IO, UUKL-UL 864 Approved (Honeywell W7761A2010).....	925.28	
23 09 23 53-0214 EA Hydronic Controller Without Wall Module (Honeywell W7762B1027).....	453.75	
23 09 23 53-0215 EA Hydronic Controller With Built-in Wall Module (Honeywell W7763C1016).....	516.02	
23 09 23 53-0216 EA IO Module, 24 Volt AC Without Overrides (Honeywell XFC3A06001).....	953.25	
23 09 23 53-0217 EA IO Module, 24 Volt AC With Overrides (Honeywell XFC3D06001).....	1,019.34	
23 09 23 53-0218 EA AI Module (Honeywell XFL521B).....	638.04	
23 09 23 53-0219 EA AO Module (Honeywell XFL522B).....	638.04	
23 09 23 53-0220 EA DI Module (Honeywell XFL523B).....	638.04	
23 09 23 53-0221 EA DO Module (Honeywell XFL524B).....	638.04	
23 09 23 53-0222 EA Distributed IO, Lonwork Bus Connector Module With Endplate (Honeywell XSL511).....	113.12	
23 09 23 53-0223 EA Distributed IO, Terminal Block For AI, AO And DI Modules (Honeywell XSL513).....	213.53	
23 09 23 53-0224 EA Distributed IO, Terminal Block For DO Modules (Honeywell XSL514).....	209.71	
23 09 23 53-0225 EA Lon Analog IO Module, 24 Volt AC/DC, 10 Digital Inputs (Honeywell XIO-10DI).....	641.85	
23 09 23 53-0226 EA Lon Hub (Honeywell XIO-HUB).....	95.32	
23 09 23 53-0227 EA Lon Analog IO, 24 Volt AC/DC, 4 Analog Outputs (Honeywell XIO-4AO).....	641.85	
23 09 23 53-0228 EA Lon Digital IO, 24 Volt AC/DC, 4 Digital Inputs (Honeywell XIO-4DI).....	591.01	
23 09 23 53-0229 EA Lon Digital IO, 24 Volt AC/DC, 4 Digital Outputs (Honeywell XIO-4DO).....	591.01	
23 09 23 53-0230 EA Lon Analog IO, 24 Volt AC/DC, 4 Analog Inputs (Honeywell XIO-4NTC).....	622.79	
23 09 23 53-0231 EA Lon Analog IO, 24 Volt AC/DC, 4 Analog PT1000 Inputs (Honeywell XIO-4PT1000).....	622.79	
23 09 23 53-0232 EA Lon Analog IO, 24 Volt AC/DC, 8 Analog Inputs (Honeywell XIO-8AI).....	896.05	
23 09 23 53-0233 EA 16 Point IO Module For Network Area Controllers (Honeywell WEB-IO-16).....	1,057.47	
Note: Includes 8 universal inputs, 4 relay outputs, and 4 analog outputs.		
23 09 23 53-0234 EA 34 Point IO Module For Network Area Controllers (Honeywell W7750A2005).....	2,247.12	
Note: Includes 16 universal inputs, 10 relay outputs, and 8 analog outputs.		

23 09 23 53-0235**EMCS Software (23 09 23 53-0140)****23 09 23 53-0236****Software Packages And License (23 09 23 53-0235)**

Note: Includes installation on equipment.



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0237 EA On Board Programming Tool For Network Area Controllers (Honeywell WP-AX-WEB).....	716.84	
Note: Requires UI services to be installed on NAC.		
23 09 23 53-0238 EA Software Upgrade To Provide Unrestricted Connected Device Limit (Honeywell WEB-403-EXUP-AX).....	2,715.23	
Note: Upgrade existing network area controller. As with other WEBs controllers, capacity is limited by the characteristics of the application including size and complexity.		
23 09 23 53-0239 EA WEBStation-AX Software For Windows (Honeywell WEB-S-AX).....	8,007.27	
Note: Includes Archon database. WEBs controllers must have Enterprise Connectivity Station Pack (EC-SP). Includes one copy of WP-AX (WEBPro-AX).		
23 09 23 53-0240 EA Small Building WEBStation-AX Based Software (Honeywell WEB-S-AX-SBS).....	4,766.23	
Note: For up to 3 NAC controllers. NAC controllers must have Enterprise Connectivity Station Pack (EC-SP). Includes Archon database.		
23 09 23 53-0241 EA Upgrade Small Building To Large Building Software	5,384.32	
Note: Upgrade WEB-S-AX-SBS to WEB-S-AX.		
23 09 23 53-0242 EA Additional Copy Of WEBPro-AX (Honeywell WEB-S-AX-W)	3,760.87	
Note: One copy is included with WEB-S-AX and WEBStation-AX.		
23 09 23 53-0243 EA WEBs Energy Suite (WES) Base Software (Honeywell WES-BASE-AX).....	6,741.35	
Note: Includes license for 10 points of E ² Profiler and 2 licensed meters of Cost Profiler. Limit of one WES-BASE per WEBStation-AX Supervisor. Additional E ² Profiler point requirements or Cost Profiler meter requirements may use one or any combination of point/meter bundles. One WES-BASE required per WES project.		
23 09 23 53-0244 EA Perpetual License One Meter Point Bundle Of A Cost Profiler Meter And Two E ² Profiler Points (Honeywell WES-CP-AX)	837.58	
Note: Can be combined with the required single instance of VES-BASE as well as with any combination of other EP points and CP meters.		
23 09 23 53-0245 EA Perpetual License For One Point Of E ² Profiler (Honeywell WES-E2-AX).....	538.89	
Note: Can be combined with the required single instance of VES-BASE as well as with any number of other EP Points and Cost Profiler meters.		
23 09 23 53-0246 EA Perpetual License For An Unlimited Bundle Of E2 Points And CP Meters	36,741.92	
Note: Sold on a per server basis. Purchase of this product must be accompanied by VES-M1-ENT-AX maintenance. The first year price of maintenance is included with VES-ENT-AX.		
23 09 23 53-0247 EA Annual Maintenance For Enterprise WEBs-AX Energy Suite (Honeywell WES-M1-ENT-AX).....	33,507.83	
Note: The first year cost of VES-M1-ENT-AX is included with VES-ENT-AX. After the first year VES-M1-ENT-AX maintenance fee will be invoiced annually.		
23 09 23 53-0248 EA Standard WEBStation-AX Supervisor Bundled With WES-BASE-AX (Honeywell WES-S-AX)	12,768.42	
23 09 23 53-0249 EA Small WEBStation-AX Supervisor Bundled With WES-BASE-AX (Honeywell WES-S-AX-SBS).....	9,527.38	
23 09 23 53-0250 EA Add 500 Modbus TCP Points To WEBStation With WS-OSD Option (Honeywell WS-MTCP-500).....	2,754.25	
23 09 23 53-0251 EA Add 500 OPC Points To WEBStation With WS-OSD Option (Honeywell WS-OPC-500)	2,754.25	
23 09 23 53-0252 EA Vykron Oracle Driver For Support Of Oracle Database (Honeywell WS-ORCL)	19,064.92	
Note: Excludes Oracle.		
23 09 23 53-0253 EA Open System Driver Option (Honeywell WS-SNMP-500).....	2,541.99	
Note: Adds 25 points each of BACnet IP, OPC (client), Modbus TCP and SNMP to a standard WEBStation. Can be purchased with the WS or added later. Web Supervisor required to purchase this option.		
23 09 23 53-0254 EA Add 500 SNMP Points To WEBStation With WS-OSD Option (Honeywell WS-SNMP-500).....	2,754.25	
23 09 23 53-0255 EA WEBStation Software WS-1 And First Copy Of WEBPro Software (Honeywell ZW2000A1003).....	7,202.73	
Note: For a single Honeywell WEB NP controller. Excludes software keys for the additional nodes.		
23 09 23 53-0256 EA WEBStation Additional Node (Honeywell ZW2000B1002)	2,754.25	
23 09 23 53-0257 EA WEBStation Software And 20 Pack Of Node Software Keys (Honeywell ZW2000C1001).....	46,180.33	
23 09 23 53-0258 EA WEBStation Software And 50 Pack Of Node Software Keys (Honeywell ZW2000D1000).....	84,733.42	
23 09 23 53-0259 EA WEBStation Software And 100 Pack Of Node Software Keys (Honeywell ZW2000E1009)	148,283.17	
23 09 23 53-0260 EA Master WEBStation Software For Monitoring Multiple WEBStations (Honeywell ZW2000F1008)	7,625.97	
23 09 23 53-0261 EA Additional Master WEBStation Software Licenses (Honeywell ZW200G1007)	3,812.98	
23 09 23 53-0262 EA Additional Copies Of Workplace Pro WP-1 (Web Pro) (Honeywell ZW2001A1001).....	2,977.93	
23 09 23 53-0263 EA Upgrade Existing NAC To Provide Unrestricted Connected Device Limit (Honeywell WC2003B1055).....	3,287.18	
Note: As with other WEBs, capacity is limited by the characteristics of the application including size and complexity.		
23 09 23 53-0264 Initial Database Generation (23 09 23 53-0235).....		
23 09 23 53-0265 PNT Database Generation For Central Plant.....	82.66	
23 09 23 53-0266 PNT Database Generation For Programmable Controller	82.66	
Note: For VAV AHU, large CV AHU, or heat exchanger, etc.		
23 09 23 53-0267 EA Database Generation For Application Specific Controller.....	82.66	
Note: Price per each VAV box, fan coil unit, unit ventilator or small CV AHU. Task used for the first piece of each equipment.		
23 09 23 53-0268 EA Replication Of Database Generation For Application Specific Controller	57.53	
Note: Price per copy made.		
23 09 23 53-0269 EA Database Generation For Remote IO Modules, Sensors, Etcetera	57.53	
23 09 23 53-0270 Application Software Programs (23 09 23 53-0235).....		
23 09 23 53-0271 EA Basic Application Program Package.....	3,449.30	
Note: One per project. Includes program inputs, command priorities, alarms, trends for analog and digital points, energy totalization, schedules, calendars, special events, occupied and unoccupied setpoints, ventilation and recirculation modes, hot water reset program, chilled water reset program, condenser water reset program, and fail-over logic.		
23 09 23 53-0272 EA Optimum Start/Stop Program.....	115.31	
Note: Priced per controller requiring optimum start programming.		
23 09 23 53-0273 EA Duty Cycling Program.....	54.45	
23 09 23 53-0274 EA Hot Deck/Cold Deck Reset Application Program	5,925.77	
23 09 23 53-0275 EA Boiler Optimization Program	7,765.35	
23 09 23 53-0276 EA Chiller Optimization Program	10,518.96	
23 09 23 53-0277 EA Lighting Control Program.....	5,076.05	
23 09 23 53-0278 EA Demand Limiting Program	101.14	
Note: Priced per controller requiring optimum start programming.		
23 09 23 53-0279 EA Email Alarm Server Configuration.....	3,915.95	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 09 23 53-0280		Color Graphics Generation (23 09 23 53-0235)	
		Note: Priced per page.	
23 09 23 53-0281	EA	Single Site Home Page Graphics Page With HTML Navigation Code	2,066.89
23 09 23 53-0282	EA	Multi Site Home Page Graphics Page With HTML Navigation Code	3,669.68
23 09 23 53-0283	EA	Color Graphics Page For Central Plant	939.07
23 09 23 53-0284	EA	Color Graphics Page For Building Floor Plan	867.13
23 09 23 53-0285	EA	Replication Of Color Graphics Page For Central Plant	471.07
23 09 23 53-0286	EA	Color Graphics Page For Programmable Controller	1,056.47
		Note: For VAV AHU, large CV AHU, or heat exchanger, etc.	
23 09 23 53-0287	EA	Replication Of Color Graphics Page For Programmable Controller	225.93
		Note: Priced per copy made.	
23 09 23 53-0288	EA	Color Graphics Page For Application Specific Controller	977.14
		Note: Price per each VAV box, fan coil unit, unit ventilator or small CV AHU. Task used for the first piece of each equipment.	
23 09 23 53-0289	EA	Replication Of Color Graphics Page For Application Specific Cont	97.69
		Note: Priced per copy made.	
23 09 23 53-0290		Sensors, Actuators And Control Devices (23 09 23 53-0140)	
		Note: Includes installation, startup, checkout and miscellaneous parts for installation. Excludes conduit, wire and cable. Excludes engineering and programming labor. Each device is considered one control point. No engineering or programming time required for replacement parts.	
23 09 23 53-0291		Special Sensors (23 09 23 53-0290)	
23 09 23 53-0292	EA	Dewpoint Sensor (Honeywell C7232B1014)	2,244.27
23 09 23 53-0293	EA	Enthalpy Sensor -25 To 125 F	2,342.49
23 09 23 53-0294	EA	Outdoor Mounted Temperature And Humidity Transmitter (Honeywell H7635C1002)	1,039.97
23 09 23 53-0295	EA	Freezestat (Honeywell L482A1004)	711.36
23 09 23 53-0296	EA	Wall Mounted Occupancy Sensor	516.30
23 09 23 53-0297	EA	Ceiling Mounted Occupancy Sensor	408.03
23 09 23 53-0298	EA	I/P Positioner With Gauge	480.94
23 09 23 53-0299	EA	Non-Communicating Duct Mounted Smoke Detector With Sampling Tube	575.51
23 09 23 53-0300	EA	EP Transducer	480.94
23 09 23 53-0301	EA	Electric Heat Sequencer	760.97
23 09 23 53-0302		Meters (23 09 23 53-0290)	
23 09 23 53-0303	EA	208 - 480 Volt, Up To 2,400 Amperes, KW/KWh Meter/Current Transformer	4,907.32
23 09 23 53-0304	EA	208 - 480 Volt, Up To 2,400 Amperes, KW/KWh Meter/Current Transformer With LON interface	7,108.34
23 09 23 53-0305	EA	1 To 300 Amperes, Current Transformer For KW Meter	1,696.14
23 09 23 53-0306	EA	300 To 800 Amperes, Current Transformer For KW Meter	1,949.19
23 09 23 53-0307	EA	800 To 2,400 Amperes, Current Transformer For KW Meter	2,434.48
23 09 23 53-0308		Direct Coupled Actuators (23 09 23 53-0290)	
23 09 23 53-0309	EA	44 IN-LB, 2 Position, 120 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS4105A1002)	654.55
23 09 23 53-0310	EA	88 IN-LB, 2 Position, 120 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS4110A1200)	725.84
23 09 23 53-0311	EA	175 IN-LB, 2 Position, 120 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS4120A1209)	848.41
23 09 23 53-0312	EA	44 IN-LB, 2 Position, 24 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS8105A1008)	612.83
23 09 23 53-0313	EA	88 IN-LB, 2 Position, 24 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS8110A1206)	689.50
23 09 23 53-0314	EA	175 IN-LB, 2 Position, 24 Volt AC Spring Return Direct Coupled Damper Actuator (Honeywell MS8120A1205)	765.42
23 09 23 53-0315	EA	44 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC Or Floating Control, Spring Return Direct Coupled Damper Actuator	693.69
23 09 23 53-0316	EA	88 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC Or Floating Control, Spring Return Direct Coupled Damper Actuator (Honeywell MS7510A2206)	803.01
23 09 23 53-0317	EA	175 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC Or Floating Control, Spring Return Direct Coupled Damper Actuator (Honeywell MS7520A2205)	921.01
23 09 23 53-0318	EA	44 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC Or Floating Control, Non- Spring Return Direct Coupled Damper Actuator (Honeywell MN7505A2209)	555.96
23 09 23 53-0319	EA	88 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC Or Floating Control, Non- Spring Return Direct Coupled Damper Actuator (Honeywell MN7510A2209)	614.17
23 09 23 53-0320	EA	175 IN-LB, 24 Volt AC, 4-20 mA, Floating Control, Non-Spring Return Direct Coupled Damper Actuator (Honeywell MN6120A1200)	731.11
23 09 23 53-0321	EA	175 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC, Non-Spring Return Direct Coupled Damper Actuator (Honeywell MN7220A2007)	786.16
23 09 23 53-0322	EA	300 IN-LB, 24 Volt AC, 4-20 mA, Floating Control, Non-Spring Return Direct Coupled Damper Actuator (Honeywell MN6134A10030)	785.47
23 09 23 53-0323	EA	300 IN-LB, 24 Volt AC, 4-20mA, 0-10 Volt DC, Non-Spring Return Direct Coupled Damper Actuator (Honeywell MN7234A2008)	936.43
23 09 23 53-0324	EA	Pneumatic Spring Return Damper Actuator Without Positive Positioner (Honeywell MP909E1018)	579.81
23 09 23 53-0325	EA	Pneumatic Spring Return Damper Actuator With Positive Positioner (Honeywell MP909H1368)	1,029.10
23 09 23 53-0326	EA	Foot Mount Kit With Damper Linkage And Connectors For Direct Coupled Actuator	432.12
23 09 23 53-0327	EA	Direct Coupled Damper Actuator Enclosure For Outdoor Use	665.43
23 09 23 53-0328		Thermostats (23 09 23 53-0140)	
23 09 23 53-0329		Electric And Electronic Thermostats (23 09 23 53-0328)	
		Note: Includes installation, startup and checkout labor. Excludes engineering and programming labor. Each thermostat counts as one control point.	
23 09 23 53-0330	EA	Line Voltage 120 Volt, Heat/Cool Thermostat (Honeywell T651A3018)	225.46
23 09 23 53-0331	EA	Electronic Non-Programmable Heat/Cool Heat Pump Or Conventional Unit Thermostat (Honeywell TH5320)	243.52



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0332 EA Electronic Programmable Heating/Cooling Heat Pump Or Conventional Unit Thermostat (Honeywell TH6110)	223.45	18.48
23 09 23 53-0333 EA Electronic Programmable Two Heating/Two Cooling Heat Pump Or Conventional Unit Thermostat (Honeywell TH6220)	250.95	18.48
23 09 23 53-0334 EA Electronic Programmable Three Heating/Two Cooling Heat Pump Or Conventional Unit Thermostat (Honeywell TH6320)	271.62	18.48
23 09 23 53-0335 EA Electronic Programmable Two Heating/Two Cooling Heat Pump Or Conventional Unit Thermostat (Honeywell TH8321)	404.10	18.48
23 09 23 53-0336 EA Humidity Control Electronic Programmable Heat/Cool Heat Pump Or Conventional Unit Thermostat (Honeywell T7351F).....	592.77	18.48
23 09 23 53-0337 EA Lon Communicating Humidity Control Programmable Heat/Cool Heat Pump Or Conventional Unit Thermostat (Honeywell T7350H).....	965.86	18.48
23 09 23 53-0338 EA Modulating Lon Communicating Humidity Control Programmable Heat/Cool Heat Pump Or Conventional Unit Thermostat (Honeywell T7350M).....	1,030.68	18.48
23 09 23 53-0339 Pneumatic Thermostats (23 09 23 53-0328) Note: Includes installation, startup and checkout labor. Excludes engineering and programming labor. Each thermostat counts as two control point.		
23 09 23 53-0340 EA Pneumatic Thermostat (Honeywell TP970B2182).....	317.29	18.48
23 09 23 53-0341 Thermostats Guards (23 09 23 53-0328)		
23 09 23 53-0342 EA 9-3/4" x 7-1/4" x 3-3/8" Universal Thermostat Guard (Honeywell TG512A1009).....	76.00	18.48
23 09 23 53-0343 EA 7-1/2" x 6-1/2" x 2-15/16" Universal Thermostat Guard (Honeywell TG511).....	91.05	18.48
23 09 23 53-0344 EA 5-7/8" x 5-7/8" x 2-1/2" Deep Universal Thermostat Guard (Honeywell TG510).....	85.63	18.48
23 09 23 53-0345 Johnson Controls (23 09 23 53)		
23 09 23 53-0346 Software (23 09 23 53-0345) Note: Excludes programming, set-up and commissioning of application.		
23 09 23 53-0347 EA 5 Concurrent User Application And Data Server (Johnson Controls MS-ADS05U-0).....	20,407.21	
23 09 23 53-0348 EA 10 Concurrent User External Application And Data Server (Johnson Controls MS-ADX10U-0).....	24,138.09	
23 09 23 53-0349 EA N2 Controllers Commissioning And Download Software (Johnson Controls MW-MTOOL-0)	1,172.92	
23 09 23 53-0350 EA N2 Controllers Download Cable Kit (Johnson Controls AS-CBLPRO-2)	1,787.78	
23 09 23 53-0351 EA BACnet FEU Controllers Commissioning And Download Software (Johnson Controls MS-CCTSWO-0)	3,182.58	
23 09 23 53-0352 EA BACnet Controllers Download Bluetooth Converter (Johnson Controls MS-BTCVT-0).....	1,183.33	
23 09 23 53-0353 EA New User FX Tools Pro CD-Rom (FX Builder, FX Builder Express, FX CommPro N2, FX CommPro LON, FX CommPro BACnet) Software (Johnson Controls LP-FXTPRO-0)	1,176.36	
23 09 23 53-0354 EA Upgrade FX Tools Pro CD-Rom (FX Builder, FX Builder Express, FX CommPro N2, FX CommPro LON, FX CommPro BACnet) Software (Johnson Controls LP-FXTPRO-6)	415.81	
23 09 23 53-0355 Supervisory Controllers (23 09 23 53-0345)		
23 09 23 53-0356 EA NAE With 1 RS-485, Support For 50 Devices (Either N2 Or BACnet MS/TP) Supervisory Controllers (Johnson Controls MS-NAE3510-2).....	8,755.01	492.75
23 09 23 53-0357 EA NAE With 1 RS-485, Support For 100 Devices (Either N2 Or BACnet MS/TP) Supervisory Controllers (Johnson Controls MS-NAE4511-2).....	13,675.39	492.75
23 09 23 53-0358 EA NAE With 2 RS-485, Support For 200 Devices (N2 Or BACnet MS/TP) Supervisory Controllers (Johnson Controls MS-NAE5511-1).....	18,606.68	492.75
23 09 23 53-0359 EA NCE, 33 Points, Network Control Engine, 32 N2 Device Support Supervisory Controllers (Johnson Controls MS-NCE2510-0).....	6,859.70	492.75
23 09 23 53-0360 Controllers (23 09 23 53-0345)		
23 09 23 53-0361 EA 10 Point Field Equipment Controller With 2 UI, 1 BI, 3 BO, 4 CO, 24 Volt AC And Sensor Actuator Bus With Mounting Base (Johnson Controls MS-FEU1610-0).....	1,015.62	123.19
23 09 23 53-0362 EA 10 Point Field Equipment Controller With 2 UI, 1 BI, 3 BO, 4 CO, 24 Volt AC And Sensor Actuator Bus, Mounting Base And Integral Display (Johnson Controls MS-FEU1620-0).....	1,343.70	246.38
23 09 23 53-0363 EA 17 Point Field Equipment Controller With 6 UI, 2 BI, 3 BO, 2 AO, 4 CO, 24 Volt AC, Sensor Actuator Bus And Mounting Base (Johnson Controls MS-FEU2610-0).....	1,738.47	246.38
23 09 23 53-0364 EA 17 Point Field Equipment Controller With 6 UI, 2 BI, 3 BO, 2 AO, 4 CO, 24 Volt AC, Sensor Actuator Bus And Integral Display (Johnson Controls MS-FEU2620-0).....	2,066.55	246.38
23 09 23 53-0365 EA BACnet MS/TP 4-Point I/O Module With 4 BI, Field Controller Bus And Sensor Actuator Bus Support (Johnson Controls MS-IOM1710-0)	827.39	123.19
23 09 23 53-0366 EA BACnet MS/TP 6 Point I/O Module With 2 UI, 2 UO, 2 BO, Field Controller Bus And Sensor Actuator Bus Support (Johnson Controls MS-IOM2710-0).....	911.05	123.19
23 09 23 53-0367 EA BACnet MS/TP 12 Point I/O Module with 4 UI, 4 UO, 4 BO, Field Controller Bus And Sensor Actuator Bus Support (Johnson Controls MS-IOM3710-0)	1,036.54	123.19
23 09 23 53-0368 EA 17 Point I/O Module with 6 UI, 2 BI, 3 BO, 2 AO, 4 CO, 24 Volt AC And Sensor Actuator Bus With Mounting Base (Johnson Controls MS-IQU4710-0).....	1,053.27	123.19
23 09 23 53-0369 EA BACnet MS/TP Rooftop Controller For Stand-Alone And Networked Zoning Systems (Johnson Controls TEC2664Z-2).....	2,151.91	246.38
23 09 23 53-0370 EA 32-bit, Integrated VAV Controller/Actuator/DPT, 3 UI, 3 BO, and 2 CO; 24 Volt AC; Field Controller Bus And Sensor Actuator Bus (Johnson Controls MS-VMA1630-0)	1,030.85	123.19
23 09 23 53-0371 EA 32-bit, Integrated VAV Controller/Actuator/Pressure Sensor - DPT, 3 UI and 3 BO, 2 CO, 24 Volt AC, and Sensor Actuator Bus (Johnson Controls MS-VMA1930-0)	1,507.97	123.19
Note: Includes 6-pin Sensor Port for use with TE-7xx Series Non-Communicating Sensors and two Ethernet Ports for BACnet/IP Communications		
23 09 23 53-0372 Master FX Controllers (23 09 23 53-0345)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0373 EA 6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, No Communication Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X00-000C).....	2,727.48	246.38
23 09 23 53-0374 EA 6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, N2 Open Communication Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X01-000C).....	2,925.73	246.38
23 09 23 53-0375 EA 6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, LON Communication Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X02-000C).....	3,024.25	246.38
23 09 23 53-0376 EA 6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, RS-232 Communication Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X03-000C).....	2,964.38	246.38
23 09 23 53-0377 EA 6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, BACnet Communications Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X04-000C).....	2,870.81	246.38
23 09 23 53-0378 EA 6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, N2 Communication Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X11-000C).....	2,885.81	246.38
23 09 23 53-0379 EA 6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, BACnet Communications Card Without Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X14-000C).....	2,870.81	246.38
23 09 23 53-0380 EA 6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, No Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X50-000C).....	2,925.95	246.38
23 09 23 53-0381 EA 6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, N2 Open Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X51-000C).....	3,097.16	246.38
23 09 23 53-0382 EA 6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, LON Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X52-000C).....	3,211.31	246.38
23 09 23 53-0383 EA 6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, RS-232 Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X53-000C).....	3,154.23	246.38
23 09 23 53-0384 EA 6 AI, 8 DI, 4 AO, 9 DO, 9 Relays, BACnet Communications Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X54-000C).....	3,037.40	246.38
23 09 23 53-0385 EA 6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, No Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X60-000C).....	2,925.95	246.38
23 09 23 53-0386 EA 6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, N2 Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X61-000C).....	3,097.16	246.38
23 09 23 53-0387 EA 6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, LON Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X62-000C).....	3,211.31	246.38
23 09 23 53-0388 EA 6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, RS-232 Communication Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X63-000C).....	3,154.23	246.38
23 09 23 53-0389 EA 6 AI, 8 DI, 4 AO, 9 DO, 4 Relays, 5 Triac, BACnet Communications Card With Integral Display, Extended Temperature Range Master Controllers (Johnson Controls LP-FX16X64-000C).....	3,037.40	246.38
23 09 23 53-0390 EA N2 Open Communication Card For FX16 (Johnson Controls LP-NET151-010C).....	325.42	61.59
23 09 23 53-0391 EA LON Communication Card For FX15 and FX16 (Johnson Controls LP-NET152-010C).....	465.88	61.59
23 09 23 53-0392 EA RS-232 Communication Card For FX16 (Johnson Controls LP-NET163-000C).....	364.84	61.59
23 09 23 53-0393 EA BACnet Communications Card For FX16 (Johnson Controls LP-NET164-000C).....	325.42	61.59
23 09 23 53-0394 EA Remote Medium User Interface For FX16 (Johnson Controls LP-DIS60P20-0C).....	902.02	61.59
23 09 23 53-0395 EA Facility Explorer Extension I/O Module (Johnson Controls LP-XT91D00-000C).....	829.77	61.59
23 09 23 53-0396 EA 5 UI, 4 BI, 3 AO, 6 Relay DO Expansion I/O Module (Johnson Controls LP-XM07X01-000C).....	846.69	61.59
23 09 23 53-0397 EA 5 UI, 4 BI, 3 AO, 2 Triac DO, 4 Relay DO Expansion I/O Module (Johnson Controls LP-XM07X11-000C).....	846.69	61.59
23 09 23 53-0398 EA 5 UI, 4 BI, 3 AO, 6 Relay DO (Manual Overrides For 2 AO And 4 Relay DO) Expansion I/O Module (Johnson Controls LP-XM07X51-000C).....	931.19	61.59
23 09 23 53-0399 EA 5 UI, 4 BI, 3 AO, 2 Triac DO, 4 Relay DO (Manual Overrides For 2 AO, 2 Triac DO, And 2 Relay DO) Expansion I/O Module (Johnson Controls LP-XM07X61-000C).....	931.19	61.59
23 09 23 53-0400 EA 6 UI, 12 BI, 4 AO, 9 Relay DO Expansion I/O Module (Johnson Controls LP-XM14X01-000C).....	1,174.14	61.59
23 09 23 53-0401 EA 6 UI, 12 BI, 4 AO, 4 Triac DO Expansion I/O Module (Johnson Controls LP-XM14X11-000C).....	1,174.14	61.59
23 09 23 53-0402 EA 6 UI, 12 BI, 4 AO, 9 Relay DO (Manual Overrides For 3 AO And 7 Relay DO) Expansion I/O Module (Johnson Controls LP-XM14X51-000C).....	1,311.46	61.59
23 09 23 53-0403 EA 6 UI, 12 BI, 4 AO, 4 Triac DO, 5 Relay DO (Manual Overrides For 3 AO, 2 Triac DO, And 5 Relay DO) Expansion I/O Module (Johnson Controls LP-XM14X61-000C).....	1,311.46	61.59
23 09 23 53-0404 VAV, Network And Special Sensors (23 09 23 53-0345)		
23 09 23 53-0405 EA 3" x 4-1/2", Surface Or Box Mounted, LCD RH Display, 3% RH Accuracy, Occupancy Override, Adjustable Temperature Setpoint BACnet Temperature And Humidity Sensor (Johnson Controls NS-BHR7001-0).....	619.92	39.42
23 09 23 53-0406 EA 3" x 4-1/2", Surface Or Box Mounted, Addressing Switch BACnet Temperature Sensor (Johnson Controls NS-BTN7003-0).....	205.07	39.42
23 09 23 53-0407 EA 3" x 4-1/2", Surface Or Box Mounted, 3% RH Accuracy, BACnet Temperature And Humidity Sensor (Johnson Controls NS-BHN7001-0).....	478.98	39.42
23 09 23 53-0408 EA 3" x 4-1/2", Surface Or Box Mounted, LCD Display, 2% RH Accuracy, Occupancy Override, Adjustable Temperature Setpoint Addressing Switch BACnet Temperature And Humidity Sensor (Johnson Controls NS-BPB7003-0).....	718.20	39.42
23 09 23 53-0409 EA 3" x 4-1/2", Surface Or Box Mounted, LCD Display, Occupancy Override, Adjustable Temperature Setpoint, BACnet Temperature Sensor (Johnson Controls NS-BTB7001-0).....	236.13	39.42
23 09 23 53-0410 EA 3" x 4-1/2", Surface Or Box Mounted CO2 Sensor, 0 To 2,000 ppm (Johnson Controls NS-BCN7004-0).....	650.75	39.42
23 09 23 53-0411 Sensors - Hard Wired Type (23 09 23 53-0345)		
23 09 23 53-0412 EA Duct Mount Temperature Sensor, Platinum RT, With Handi-Box (Johnson Controls TFDRC00).....	196.13	70.96
23 09 23 53-0413 EA Well Insertion Temperature Sensor, With Stainless 4-1/2" Well (Johnson Controls TIGB1C0).....	169.55	39.42
23 09 23 53-0414 EA BACnet MS/TP Networked, Single Stage Thermostat (Johnson Controls TEC2601-2).....	481.73	18.48
Note: For fan coil units, unit heaters and single stage packaged heating/cooling equipment.		
23 09 23 53-0415 EA BACnet MS/TP Networked Two Outputs, Dehumidification Capability And Three Speed Fan Control Thermostat (Johnson Controls TEC2616-2).....	653.42	18.48
Note: For two or four pipe fan coils, cabinet unit heaters or other equipment using on/off, floating, or proportional 0 to 10 Volt DC control input, three speeds of fan control, and dehumidification capability.		
23 09 23 53-0416 EA BACnet MS/TP Networked Thermostats With Two Outputs (Johnson Controls TEC2627/VVT-2).....	482.68	18.48
Note: For VVT systems.		
23 09 23 53-0417 EA BACnet MS/TP Zone Controller For Proportional Zone Damper, On/Off Or Proportional Reheat Control (Johnson Controls TEC2647Z-2).....	635.43	39.42



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0418	EA	BACnet Zone Controller With Occupancy Sensor For Proportional Zone Damper, On/Off Or Proportional Reheat Control (Johnson Controls TEC2647Z-2+PIR).....	784.02	39.42
23 09 23 53-0419		Melink Intelli-Hood IH3 Controls (23 09 23 53)		
23 09 23 53-0420		Kitchen Ventilation Controllers (23 09 23 53-0419)		
23 09 23 53-0421	EA	Fully Programmable Kitchen Ventilation Controller (Melink Intelli-Hood 2SYS-3001)..... Note: RS-485 communication protocol supports up to 39 Hood Controllers, 10 graphical user interface devices, 10 auxiliary power supplies, and 10 auxiliary light controllers. Modbus VFD communications interface for support of up to 64 variable frequency drives, programmable I/O points. Includes 3 digital inputs, 4 digital outputs, 1 analog output, and 1 analog input. BACnet over TCP/IP Interface, Real-Time Clock with battery back-up.	10,191.22	492.75
23 09 23 53-0422	EA	Graphical User Interface (Melink Intelli-Hood 2KPD-3001)..... Note: Full color 2.5" display and programming interface device. RS-485 communication protocol for interface with main controller.	1,945.49	101.63
23 09 23 53-0423	EA	Hood Controller (Melink Intelli-Hood 2SEN-3001)..... Note: 6 point field I/O device, RS-485 communication protocol, supports up to 4 field temperature sensors and 1 optic sensor system.	3,150.99	410.22
23 09 23 53-0424		Kitchen Ventilation Sensors (23 09 23 53-0419)		
23 09 23 53-0425	EA	Duct Mount Stainless Steel RTD (Melink Intelli-Hood 2SEN-3005-Q)..... Note: Includes UL listed mounting compression fitting, stainless steel probe protection sleeve, RJ-45 communication connector.	571.24	70.96
23 09 23 53-0426	EA	Optic Sensor System For Detection Of Cooking Effluent (Melink Intelli-Hood 2SEN-3004-28)..... Note: Includes air purge unit, infrared emitter/receiver with stainless steel housings. Auto-calibration, 0.2 second response time, conformal-coated circuit boards, purge pipe assembly complete with UL listed compression fittings, communication interface cables and blower box assembly.	4,923.44	394.21
23 09 23 53-0427		Siemens Controls (23 09 23 53)		
23 09 23 53-0428	EA	Concealed Temperature Set Point Adjustment, Electric Line Voltage Heating/Cooling Thermostat (Siemens 134-1083).....	464.36	18.48
23 09 23 53-0429	EA	Exposed Temperature Set Point Adjustment, Electric Line Voltage Heating/Cooling Thermostat (Siemens 134-1085).....	326.82	18.48
23 09 23 53-0430	EA	SPST/Manual Reset, 1" To 12" Set Point Range, Differential Static Pressure Airflow Switch (Siemens 141-0575).....	333.88	83.22
23 09 23 53-0431	EA	-0.5" To 0.5" WG, Low Differential Pressure Transmitter (Siemens 141-0591).....	509.78	83.22
23 09 23 53-0432	EA	Spring Clip Mounting Kit For Thermostat (Siemens 182-685).....	78.74	12.32
23 09 23 53-0433	EA	Two Position, Pneumatic Circuit, RL243 Switching Relay (Siemens 243-0001).....	263.17	123.19
23 09 23 53-0434	EA	3/4" Two Way, Normally Closed, 6.3 Cv, FxF, Brass Trim, Floating, Spring Return Actuator, Globe Valve And Actuator Assembly (Siemens 280-02012).....	424.71	19.39
23 09 23 53-0435	EA	1" Three Way, 10 Cv, FxF, Stainless Steel Trim, Floating, Spring Return Actuator, Globe Valve And Actuator Assembly (Siemens 266-02079).....	748.76	35.20
23 09 23 53-0436	EA	1" Three Way, 10 Cv, FxF, Brass Trim, 0 To 10 Volt DC, 4 To 20 mA Electronic Spring Return Actuator, Globe Valve And Actuator Assembly (Siemens 274-03203).....	1,520.05	35.20
23 09 23 53-0437	EA	1-1/4" Two Way, 16 Cv, FxF, Stainless Steel Trim, 0 To 10 Volt DC Electronic Spring Return Actuator, Globe Valve And Actuator Assembly (Siemens 298-03006).....	1,280.40	44.59
23 09 23 53-0438	EA	36" Rigid Probe, 4 To 20 mA, 20 To 120 Degree F Range, Duct Averaging Sensor (Siemens 535-490-36).....	335.26	70.96
23 09 23 53-0439	EA	-58 To 122 Degree F Range, Outside Air Temperature Sensor (Siemens 536-768).....	283.24	39.42
23 09 23 53-0440	EA	Unit Conditioner Controller With Secure Mode (Siemens 540-110C).....	619.81	58.15
23 09 23 53-0441	EA	9-Pin, Female To RJ-11 Cable (Siemens 540-143).....	112.99	6.16
23 09 23 53-0442	EA	Terminal Box Controller, Electronic Output, For Trane (Siemens 540-800).....	1,000.87	118.26
23 09 23 53-0443	EA	MMI Extension Cable (Siemens 545-712).....	182.86	6.16
23 09 23 53-0444	EA	Remote Pressure Transmitter (Siemens 547-003).....	1,497.87	39.42
23 09 23 53-0445	EA	Cooling Only, GDE, BACnet Actuating Terminal Equipment Controller (Siemens 550-400).....	917.66	29.56
23 09 23 53-0446	EA	BACnet Unit Conditioner Fan Coil Controller (Siemens 550-433).....	794.25	78.84
23 09 23 53-0447	EA	Door Lock And Key Assembly (Siemens 567-225).....	43.50	24.63
23 09 23 53-0448	EA	Insight Advanced Software Package (Siemens 571-010-381-USB)..... Note: Includes one user license and one sentinel key.	15,210.53	
23 09 23 53-0449	EA	BACnet Client Option For Insight Advanced Software Package (Siemens 571-188).....	532.19	
23 09 23 53-0450	EA	Soft Controller Option For Insight Advanced Software Package (Siemens 571-620).....	3,343.91	
23 09 23 53-0451	EA	1" Steam, Normally Open, 10 Cv, Stainless Steel Trim, Class 250 Globe Valve (Siemens 599-03059).....	498.59	11.71
23 09 23 53-0452	EA	2" Steam, Normally Open, 40 Cv, Stainless Steel Trim, Class 250 Globe Valve (Siemens 599-03062).....	1,052.46	20.28
23 09 23 53-0453	EA	Firefinder XLS Driver, Modular Equipment Controller With RS-485 BLN, 8 DI, 8 DO, 8 AI, 8 AO, Point Expansion Support, HOA-Ready (Siemens 986-83481C).....	9,990.18	49.28
23 09 23 53-0454	EA	SiPass Driver, Modular Equipment Controller With RS-485 ALN, 8 DI, 8 DO, 8 AI, 8 AO, Point Expansion Support, Modem With HOA (Siemens 986-83482F).....	11,770.83	49.28
23 09 23 53-0455	EA	7" x 13-7/16" x 3-3/4" Weather Shield (Siemens ASK75.3U).....	182.36	18.48
23 09 23 53-0456	EA	Two Position, 24 Volt AC/Volt DC, Standard Cabling, Dual Auxillary Switches, Electronic Damper Actuator With Spring Return (Siemens GMA126.1U).....	449.25	47.40
23 09 23 53-0457	EA	Modulating, 0 To 10 Volt DC, 24 Volt AC/Volt DC, Standard Cabling, Electronic Damper Actuator With Spring Return (Siemens GMA161.1U).....	480.13	47.40
23 09 23 53-0458	EA	License To Enable 4 TX-I/O Modules On the Island Bus And FLN Support On Models PXC36-E.A And PXC36-PE.A (Siemens LSM-36.A).....	4,420.08	
23 09 23 53-0459	EA	License To Enable FLN Support On PXC-16 or PXC-24 "F" Models (Siemens LSM-FLN).....	892.53	
23 09 23 53-0460	EA	License To Enable FLN Support On Models PXC36-E.A And PXC36-PE.A (Siemens LSM-FLN36.A).....	2,872.53	
23 09 23 53-0461	EA	License To Enable BACnet Field Panel Web Server (PXC-36) Or Web Services (PXC-16/24) (Siemens LSM-FPWEB).....	2,056.33	
23 09 23 53-0462	EA	License To Enable 4 TX-I/O Modules On the Island Bus On Models PXC36-E.A And PXC36-PE.A (Siemens LSM-IB36.A).....	1,767.72	
23 09 23 53-0463	EA	License To Enable SNMP Agent License To Enable SNMP Agent (Siemens LSM-SNMP).....	5,226.18	
23 09 23 53-0464	EA	16-Switch HOA Upgrade Kit (Siemens PXA16-M).....	830.95	2.46
23 09 23 53-0465	EA	16-Switch HOA Upgrade Kit (Extended Temp, UL 916) With HMI Cable (Siemens PXA16-MR).....	927.39	9.86

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0466	EA		8-Switch HOA Upgrade Kit (Siemens PXA8-M).....	469.83	2.46
23 09 23 53-0467	EA		18" NEMA Type 1 Enclosure (Utility Cabinet) (Siemens PXA-ENC18).....	462.00	68.99
23 09 23 53-0468	EA		19" NEMA Type 1 Enclosure (Utility Cabinet) (Siemens PXA-ENC19).....	808.61	68.99
23 09 23 53-0469	EA		34" NEMA Type 1 Enclosure (Utility Cabinet) (Siemens PXA-ENC34).....	1,135.17	78.84
23 09 23 53-0470	EA		Serial Cable Required For HOA Or PXM10T/S Connection To Non-Rooftop Variants Of The 16-Point And 24-Point Compact Series (Siemens PXA-HMI.CABLEP5).....	41.34	12.32
23 09 23 53-0471	EA		115 Volt, 24 Volt AC, 50/60 Hertz, 192 VA PX Series Service Box (Siemens PXA-SB115V192VA).....	818.67	30.80
23 09 23 53-0472	EA		115 Volt, 24 Volt AC, 50/60 Hertz, 384 VA PX Series Service Box (Siemens PXA-SB115V384VA).....	1,314.67	30.80
23 09 23 53-0473	EA		230 Volt, 24 Volt AC, 50/60 Hertz, 192 VA PX Series Service Box (Siemens PXA-SB230V192VA).....	1,001.41	30.80
23 09 23 53-0474	EA		230 Volt, 24 Volt AC, 50/60 Hertz, 384 VA PX Series Service Box (Siemens PXA-SB230V384VA).....	1,523.53	30.80
23 09 23 53-0475	EA		PXC Modular, BACnet/IP Or MS/TP ALN, P1 Or MS/TP FLN, PXX-485.3 Is Also Required As The Connection To The FLN Devices (Siemens PXC00-E96.A).....	4,459.32	61.59
23 09 23 53-0476	EA		PXC Modular Series For BACnet Networks, TX-I/O Module, 96 Node (Siemens PXC100-E96.A).....	5,768.66	61.59
23 09 23 53-0477	EA		Peer To Peer, TX-I/O, 96 Node, APOGEE Automation System, Programmable Controller - Modular (Siemens PXC100-PE96.A).....	6,572.53	61.59
23 09 23 53-0478	EA		16 Point, BACnet/IP ALN Compact Programmable Controller (Siemens PXC16.2-E.A).....	1,805.85	61.59
23 09 23 53-0479	EA		16 Point, BACnet/IP ALN, P1 Or MS/TP FLN Compact Programmable Controller (Siemens PXC16.2-EF.A).....	2,159.93	61.59
23 09 23 53-0480	EA		16 Point, MS/TP ALN Compact Programmable Controller (Siemens PXC16.2-M.A).....	1,925.32	61.59
23 09 23 53-0481	EA		24 Point, BACnet/IP ALN Compact Programmable Controller (Siemens PXC24.2-E.A).....	2,634.65	61.59
23 09 23 53-0482	EA		24 Point, BACnet/IP ALN, P1 Or MS/TP FLN Compact Programmable Controller (Siemens PXC24.2-EF.A).....	2,879.14	61.59
23 09 23 53-0483	EA		24 Point, BACnet/IP ALN, Rooftop Compact Programmable Controller (Siemens PXC24.2-ER.A).....	2,818.48	61.59
23 09 23 53-0484	EA		24 Point, BACnet/IP ALN, Rooftop, P1 Or MS/TP FLN Compact Programmable Controller (Siemens PXC24.2-ERF.A).....	3,037.54	61.59
23 09 23 53-0485	EA		24 Point, MS/TP ALN Compact Programmable Controller (Siemens PXC24.2-M.A).....	2,812.96	61.59
23 09 23 53-0486	EA		24 Point, MS/TP ALN, Rooftop Compact Programmable Controller (Siemens PXC24.2-MR.A).....	3,036.05	61.59
23 09 23 53-0487	EA		36 Point, BACnet/IP Or MS/TP ALN Compact Programmable Controller (Siemens PXC36-E.A).....	3,914.25	61.59
23 09 23 53-0488	EA		36 Point, BACnet/IP Or MS/TP ALN, Island Bus, P1 Or MS/TP FLN Compact Programmable Controller (Siemens PXC36-EF.A).....	7,813.62	61.59
23 09 23 53-0489	EA		License To Enable The Island Bus On PXC00-E96.A and PXC00-PE96.A (Siemens PXC-TXIO.A).....	1,326.06	
23 09 23 53-0490	EA		Controller Mounted Operator Display Module With Point Monitor And Optional Blue Backlight (Siemens PXM10S).....	526.95	30.80
23 09 23 53-0491	EA		Controller Mounted Operator Display Module (Siemens PXM10T).....	383.76	30.80
23 09 23 53-0492	EA		Provides FLN Support For The PXC Modular (Siemens PXX-485.3).....	874.59	24.63
			Note: Includes Three RS-485 P1 FLN Connections Or One MS/TP FLN Connection, Maximum Of 96 Devices Supported		
23 09 23 53-0493	EA		Full Feature With Display, Override And Temperature Setpoint Adjustment, Room Temperature Sensor, 10K Ohm Type III Thermistor (Siemens QAA22SS.FWSN).....	296.25	30.80
23 09 23 53-0494	EA		Digital Temperature Room Unit for TEC, Sensing, Setpoint, Override, Display, No Logo (Siemens QAA2280.FWNC).....	288.51	39.42
23 09 23 53-0495	EA		4" Platinum, 1,000 Ohm, 385 Alpha Probe, Immersion Temperature Sensor (Siemens QAE2012.010).....	143.50	30.80
23 09 23 53-0496	EA		8" Platinum, 1,000 Ohm, 385 Alpha Probe, Duct Temperature Sensor (Siemens QAM2012.020).....	106.89	30.80
23 09 23 53-0497	EA		24" Flexible Averaging Probe (Siemens QAM2012.750).....	315.94	61.59
23 09 23 53-0498	EA		2 Meter Flexible Duct Temperature Sensor With Four Mounting Clamps (Siemens QAM2120.200).....	201.85	46.19
23 09 23 53-0499	EA		10 HP, 240 Volt, NEMA 2 Variable Frequency Drive (Siemens SED2-7.5/22X).....	3,554.94	396.92
23 09 23 53-0500	EA		Two Sets, Address Keys 1 - 12, Accessory For TX-I/O Module (Siemens TXA1.K12).....	37.59	12.32
23 09 23 53-0501	EA		Labels For HOA And TX-I/O Modules (Siemens TXA1.LLT-P100).....	0.87	
23 09 23 53-0502	EA		16 Digital Input Module (Siemens TXM1.16D).....	656.82	12.32
23 09 23 53-0503	EA		6 Digital Output Relay Points, Manual Override, Digital Output Module (Siemens TXM1.6R-M).....	994.65	12.32
23 09 23 53-0504	EA		8 Universal Points, Local Override/Identification, Digital Output Module (Siemens TXM1.8X-ML).....	1,597.54	24.63
23 09 23 53-0505	EA		1.2 A, 4A Fuse, Power Supply (Siemens TXS1.12F4).....	488.08	7.39
23 09 23 53-0506			Trane Controls (23 09 23 53)		
23 09 23 53-0507			Software (23 09 23 53-0506)		
			Note: Excludes programming, set-up and commissioning of application.		
23 09 23 53-0508	EA		Summit + Building Management Package (Trane 40201152).....	7,550.84	
23 09 23 53-0509	EA		Summit Current Version Software (Trane 40201111).....	4,261.95	
23 09 23 53-0510	EA		Summit Customer Upgrade Package, Currently V10-V16 To V17 (Trane 40201113).....	1,030.93	
23 09 23 53-0511	EA		Rover Service Software And Hardware, Complete Kit (Trane X1365150001).....	4,236.14	
23 09 23 53-0512	EA		Tracer SC With -X1365152401 - BACnet (2 Pack) (Trane BMSC000AAA011000).....	11,716.99	
23 09 23 53-0513			EMCS Central Equipment And Controllers (23 09 23 53-0506)		
23 09 23 53-0514	EA		Summit BTMX Operator Display Upgrade (Trane 40201224).....	6,477.37	492.75
23 09 23 53-0515	EA		Summit BTMX Retrofit Kit For BMTS And BMTW BCU (Trane 49500531).....	14,844.23	492.75
23 09 23 53-0516	EA		Summit BTMX Retrofit Kit For Tracer 100 (Trane 49500532).....	14,844.23	492.75
23 09 23 53-0517	EA		Summit BTMX, 120 Volt, (Trane BMTX-001-A-A-B0-00).....	13,027.49	492.75
23 09 23 53-0518	EA		Summit BTMX, 120 Volt, With Display (Trane BMTX-001-A-A-B0-10).....	15,139.80	492.75
23 09 23 53-0519	EA		Summit CCP Upgrade ROM Kit (Trane 40201095).....	228.35	30.80
23 09 23 53-0520	EA		Summit Comm5 Repeater (Trane 49500457).....	1,760.81	246.38
23 09 23 53-0521	EA		AHU Controller MP580/581 E Board Only (Trane 40201157).....	3,003.00	307.97
23 09 23 53-0522	EA		AHU Controller MP581 120 Volt AC With Enclosure And Display (Trane BMTM000AAC01).....	3,855.74	369.57
23 09 23 53-0523	EA		AHU Controller MP581 120 Volt AC With Enclosure, No Display (Trane BMTM000AAC00).....	3,016.25	369.57
23 09 23 53-0524	EA		AHU Controller MP581 Operator Door Display (Trane 40201156).....	2,542.62	369.57
23 09 23 53-0525	EA		AHU Controller MP581 Portable, Rugged, With Case (Trane 49500491).....	2,539.95	369.57
23 09 23 53-0526	EA		Controller MP503 I/O Module With Metal Enclosure (Trane 49500590).....	1,150.40	123.19
23 09 23 53-0527	EA		Controller MP503 I/O Module With Plastic Cover (Trane 49500490).....	1,046.04	123.19
23 09 23 53-0528	EA		Controller MP581 EX2 Expansion Module With Metal Enclosure (Trane 49500500).....	1,883.50	246.38
23 09 23 53-0529	EA		Controller MP581 EX2 Expansion Module With Plastic Cover (Trane 49500499).....	1,796.96	246.38
23 09 23 53-0530	EA		2 Position, FCU Controller ZN511 Zone With Metal Enclosure (Trane 49500569).....	1,007.82	123.19
23 09 23 53-0531	EA		2 Position, FCU Controller ZN511 Zone With Plastic Cover (Trane 4950-0469).....	882.17	123.19
23 09 23 53-0532	EA		4 Position, FCU Controller ZN517 Zone With Metal Enclosure (Trane 49500596).....	1,317.02	123.19



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0533	EA	4 Position, FCU Controller ZN517 Zone With Plastic Cover (Trane 49500496)	1,192.04	123.19	
23 09 23 53-0534	EA	Modulating FCU Controller ZN520 Zone With Plastic Cover (Trane 4950049)	1,019.01	123.19	
23 09 23 53-0535	EA	Modulating FCU Controller ZN520 Zone With Plastic Cover (Trane 49500496)	971.00	123.19	
23 09 23 53-0536	EA	Modulating Tri ST FCU Controller ZN521 Zone With Metal Cover (Trane 49500570)	1,118.37	123.19	
23 09 23 53-0537	EA	Modulating Tri ST FCU Controller ZN521 Zone With Plastic Cover (Trane 49500470)	1,019.01	123.19	
23 09 23 53-0538	EA	DDC VAV Retrofit Kit (Trane VRTODD01)	1,410.65	246.38	
23 09 23 53-0539	EA	DDC VAV Retrofit Kit With Belimo Actuator (Trane VRTODD01BLMO)	1,534.24	246.38	
23 09 23 53-0540 Network, VAV And Special Sensors (23 09 23 53-0506)					
23 09 23 53-0541	EA	Digital Display Zone Sensor (Trane X13790464010)	240.93	39.42	
23 09 23 53-0542	EA	Single Setpoint Wall Mounted Zone Temperature Sensor (Trane X13511529010)	159.99	39.42	
23 09 23 53-0543	EA	Wall Mounted Zone Temperature-Only Sensor (Trane X13511528010)	146.33	39.42	
23 09 23 53-0544	EA	Ceiling Mount Zone Occupancy Sensor (Trane X13790421-01)	297.13	44.35	
23 09 23 53-0545	EA	Zone LCD O/C Setpoint, 3 Speed Fan (Trane 41901121)	178.65	39.42	
23 09 23 53-0546	EA	Zone Sensor LCD O/C Setpoint (Trane 41901120)	178.65	39.42	
23 09 23 53-0547	EA	Duct CO2 Sensor, 0 To 2,000 ppm (Trane X13790423010)	626.96	70.96	
23 09 23 53-0548	EA	Room CO2 Sensor, 0 To 2,000 ppm (Trane X13790422010)	575.42	39.42	
23 09 23 53-0549	EA	Transformer 120/24 40 VA (Trane X13550284010)	139.51	39.42	
23 09 23 53-0550	EA	Transformer 24 Volt AC Wall Plug-In (Trane 35803005)	134.63	39.42	
23 09 23 53-0551	EA	Transformer UL Listed 120 Volt AC, 40 VA (Trane 35812022)	126.83	39.42	
23 09 23 53-0552	EA	Controller UC400 VAV Kit With Enclosure, And Belimo (Trane 5189454010)	1,584.53	246.38	
23 09 23 53-0553	EA	Controller UC400 VAV Kit With Enclosure, No Actuator (Trane 5189456010)	1,517.86	246.38	
23 09 23 53-0554	EA	Controller UC400 XM32 Module (4 Relay) (Trane X13651563010)	1,378.73	246.38	
23 09 23 53-0555	EA	Controller UC400 XM70 (8UI,6UI/AO,4R,1P) (Trane X13651568010)	2,464.87	369.57	
23 09 23 53-0556	EA	Controller UC400 XM30 I/O Module (4 UI/AO) (Trane X13651537010)	1,378.73	246.38	
23 09 23 53-0557	EA	Controller UC210 VAV With Belimo Actuator (Trane BMUC210AAA0B00011)	1,449.30	246.38	
23 09 23 53-0558	EA	Controller UC210 VAV Without Actuator (Trane BMUC210AAA0100011)	1,454.79	246.38	
23 09 23 53-0559	EA	Controller Optional Metal Enclosure, UC210 (Trane 501898)	524.58	245.33	
23 09 23 53-0560	EA	Controller UC400 PM014 24 Volt AC To 1.4 Amperes, 24 Volt DC (Trane X1365153801)	759.45	245.33	
23 09 23 53-0561	EA	Controller Tracer UC600 Controller (Trane BMUC600AAA0100011)	2,760.36	369.57	
23 09 23 53-0562	EA	Controller UC600 Tracer TD7 Display (Trane X13651571010)	2,653.09	369.57	
23 09 23 53-0563	EA	Controller UC600 TD7 Mounting Bracket (Trane X05010511010)	163.89	49.10	
23 09 23 53-0564	EA	Controller UC400 13" DIN Rail Enclosure, 120 Volt (Trane X13651559010)	593.55	49.10	
23 09 23 53-0565	EA	SC 24" DIN Rail Enclosure, 120 Volt (Trane X13651552010)	2,826.67	369.57	
23 09 23 53-0566	EA	BACnet Term (2 Pack) (Trane X1365152401)	260.03	88.32	
23 09 23 53-0567	EA	Tracer ES Add License (Trane X40250125010)	3,388.98		
23 09 23 53-0568	EA	Kit - Tracer TU For Controls (Trane X4509151201)	5,193.10	492.75	
23 09 23 53-0569	EA	Kit - Tracer TU Complete (Trane X4509151301)	6,827.54	492.75	
23 09 23 53-0570	EA	Tracer TU Adapter Wired/Wireless (Trane X13651529010)	673.51	88.32	
23 09 23 53-0571	EA	Sensor Wireless Zone Sensor, Fahrenheit (Trane X13790492010)	385.83	88.32	
23 09 23 53-0572	EA	Sensor Wireless Display Sensor (Trane X13790822010)	436.54	88.32	
23 09 23 53-0573	EA	Sensor Wireless Receiver, 100mW (Trane X13790854010)	390.70	88.32	
23 09 23 53-0574	EA	Sensor Wireless Comm Interface (WCI) Indoor, 100mW (Trane X13790901010)	531.00	88.32	
23 09 23 53-0575	EA	Sensor Wireless Comm Interface (WCI) Outdoor, 100mW (Trane X13790941010)	578.77	88.32	
23 09 23 53-0576 Control Sensors, Meters, Relays, Power Supplies, Valves, Dampers And Actuators (23 09 23 53)					
23 09 23 53-0577 Room Pressure Monitoring (23 09 23 53-0576)					
23 09 23 53-0578	EA	Hospital Room Pressure Monitor With Digital Interface Monitor, Through Wall Sensor Transformer And Plenum Rated Cable (TSI 8640-PM)	3,434.98	59.25	
23 09 23 53-0579	EA	Hospital Room Pressure Controller With Digital Interface Monitor, Through Wall Sensor Transformer And Plenum Rated Cable (TSI 8630-PC)	5,551.96	59.25	
Note: Excludes dampers and actuators.					
23 09 23 53-0580	EA	Hospital Room Pressure Status Remote Visual Display (TSI 8694-4)	431.45	35.55	
23 09 23 53-0581	EA	Hospital Room Pressure Status Remote Negative/Neutral Key Switch (TSI 8694-7)	499.01	35.55	
23 09 23 53-0582 Current Switches And Current Sensors (23 09 23 53-0576)					
23 09 23 53-0583	EA	Up To 20 Amperes, 0 To 5 Volt DC, Current Sensor (Senva C-1203)	149.26	39.42	
23 09 23 53-0584	EA	Up To 20 Amperes, 4-20mA, Current Sensor (Senva C-1205)	155.11	39.42	
23 09 23 53-0585	EA	0.5 To 135 Amperes Range, Split Core, VFD Current Switch (Senva C-2350VFD-L)	240.93	39.42	
23 09 23 53-0586	EA	0.15 To 100 Amperes Range, Split Core, Current Switch With NC Command Relay (Senva C-2300 And CR4-24)	141.46	39.42	
23 09 23 53-0587	EA	0 To 50/100/200 Amperes (Selectable), 4-20mA, 0 To 5 Volt DC, Split Core, DC Current Sensor (Veris H970HCA)	439.87	39.42	
23 09 23 53-0588	EA	0 To 20/40/80 Amperes (Selectable), 0-20mA, 0 To 5 Volt DC, Split Core, DC Current Sensor (Veris H970LCC)	279.69	39.42	
23 09 23 53-0589	EA	1 To 135 Amperes, N.O. Contact, 1 Ampere At 110 Volt, Current Switch (Veris H709)	212.82	39.42	
23 09 23 53-0590	EA	0 To 10/20/40 Amperes, 4-20mA Analog Output, Solid Core, Loop Powered, Current Switch (Veris H721)	212.82	39.42	
23 09 23 53-0591	EA	Energy Meter H8163 Series, With BACnet Output (Veris H8186-CB-BAC)	5,761.65	197.11	
23 09 23 53-0592	EA	100 Amperes, Modbus RTU, Power Transducer (Veris H8035-0100-2)	1,465.20	39.42	
Note: 3 phase networked transducer.					
23 09 23 53-0593	EA	2,400 Amperes, Three Current Switches, Pulse Output, Phase Loss Alarm Output, Energy Meter (Veris H8163-2400-4-3)	2,228.39	39.42	
23 09 23 53-0594	EA	Up To 20 Amperes, 0-5 Volt DC, Current Transducer (Kele 4CTV)	228.52	39.42	
23 09 23 53-0595	EA	Solid Core Fixed Setpoint Digital Output Current Switch (Veris H-800)	338.60	104.72	
23 09 23 53-0596	EA	Split Core Fixed Setpoint Digital Output Current Switch (Veris H-900)	339.07	104.72	
23 09 23 53-0597	EA	Solid Core Adjustable Setpoint Digital Output Current Sensor (Veris H-708)	362.47	104.72	
23 09 23 53-0598	EA	Split Core Adjustable Setpoint Digital Output Current Sensor (Veris H-908)	368.32	104.72	
23 09 23 53-0599	EA	Solid And Split Core Adjustable Setpoint Digital Output VFD Current Switch (Veris H-904)	401.48	104.72	
23 09 23 53-0600	EA	Toggle Switch	138.02	49.28	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 09 Instrumentation and Control for HVAC****23 09 23 Direct-Digital Control System for HVAC**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 23 53-0601 EA Maintained Pushbutton Switch.....	147.58	49.28
23 09 23 53-0602 EA Manual Time Switch.....	237.66	49.28
23 09 23 53-0603 EA Emergency Stop Switch.....	398.74	49.28
23 09 23 53-0604 EA Float Switch	382.04	49.28
23 09 23 53-0605 EA Break Glass Switch.....	1,259.91	49.28
23 09 23 53-0606 EA Boiler E-Stop Switch	768.30	49.28
23 09 23 53-0607 Relays (23 09 23 53-0576)		
23 09 23 53-0608 EA DPDT, 24 Volt AC, Blade, Standard Relay (Kele RH2B-UAC24V).....	122.93	39.42
23 09 23 53-0609 EA SPDT, 24 Volt AC/Volt DC, 120 Volt AC Multi-Voltage Relay Module (Kele PAM-1).....	134.93	39.42
23 09 23 53-0610 EA SPDT, 24 Volt AC/Volt DC, 120 Volt AC Power Relay (Kele RIB2401B).....	191.18	49.28
Note: Box type.		
23 09 23 53-0611 EA Motor Starter Interface, 300msec Pulse (Kele PIL-2).....	242.53	39.42
23 09 23 53-0612 EA DP Relay Socket, DIN Rail Mounted (Kele SH2B-05).....	114.23	39.42
23 09 23 53-0613 EA SP Relay Socket, DIN Rail Mounted (Kele SH1B-05).....	112.48	39.42
23 09 23 53-0614 EA SPDT, 24 Volt AC, Blade, Standard Relay (Kele RH1B-UAC24V).....	122.93	39.42
23 09 23 53-0615 EA DPDT, 24 Volt AC, Blade, Indicator Light Relay (Kele RH2B-ULAC24V).....	128.41	39.42
23 09 23 53-0616 EA SPDT, 24 Volt AC, Blade, Indicator Light Relay (Kele RH1B-ULAC24V).....	129.91	39.42
23 09 23 53-0617 EA SPDT Pilot Relay, Universal (Kele RIBU1C).....	140.65	49.28
Note: Box type.		
23 09 23 53-0618 EA SPST Pilot Relay With HOA Switch (Kele RIBU1S)	189.60	49.28
Note: Box type.		
23 09 23 53-0619 EA SPDT 3 Phase Line Voltage Monitor, .1-5 Minute Delay On Break Timer (ICM400)	340.58	49.28
23 09 23 53-0620 EA SPDT 3-Phase Line Voltage Monitor, 0-10 Minute Delay On Break Timer (ICM450).....	338.42	49.28
23 09 23 53-0621 Transformers (23 09 23 53-0576)		
23 09 23 53-0622 EA 50 VA, 120/240/277/480-24 Volt AC, CB Foot And Single Hub Control Transformer (Veris X050CBA).....	147.97	39.42
23 09 23 53-0623 EA 75 VA, 120-24 Volt AC, CB Foot And Dual Hub Control Transformer (Veris X075CAB)	161.59	39.42
23 09 23 53-0624 EA 75 VA, 120/208/240/480-24 Volt AC, CB Foot And Single Hub Control Transformer (Veris X075CBA).....	161.59	39.42
23 09 23 53-0625 EA 100 VA, 120-24 Volt AC, CB Foot And Dual Hub Control Transformer (Veris X100CAB).....	173.91	39.42
23 09 23 53-0626 EA 100 VA, 120/240/277/480-24 Volt AC, CB Foot And Single Hub Control Transformer (Veris X100CBA).....	181.50	39.42
23 09 23 53-0627 Power Supplies (23 09 23 53-0576)		
23 09 23 53-0628 EA Solid Core Current Operated Switch, Terminals, Adjustable Trip, 0.5-150A, SPST (Kele RIBXKTA).....	224.57	39.42
23 09 23 53-0629 EA AC/DC Power Supply, 1.2 Amperes At 24 Volt Output (Kele DCPA-1.2).....	262.34	39.42
23 09 23 53-0630 EA DC Power Supply, 5 Volt DC And 24 Volt DC Output (Kele DCP-524).....	245.32	39.42
23 09 23 53-0631 EA DC Power Supply, 24 Volt DC, DIN Rail Mounted (Kele DCP-250-D).....	253.37	39.42
23 09 23 53-0632 EA DC Power Supply, 24 Volt DC, Hub Mounted (Kele DCP-250-H).....	246.20	39.42
23 09 23 53-0633 EA DC Power Supply, 24 Volt DC, Panel Mounted (Kele DCP-250-P).....	258.21	39.42
23 09 23 53-0634 EA DC Power Supply, 24 Volt AC In To Custom DC Out, At 1.5 Amperes (Kele DCP-1.5-W-C).....	192.09	39.42
23 09 23 53-0635 Carrier Sensors And Controls (23 09 23 53)		
23 09 23 53-0636 EA Touch Screen Controller, Supports 512 ID Units (Carrier BMS-CT5120UL).....	6,100.41	164.09
23 09 23 53-0637 EA Wired Remote Controller (Carrier RBC-AMS54E-UL).....	382.33	39.42
23 09 23 53-0638 EA Remote Sensor (Carrier TCB-TC41UL).....	330.10	39.42
23 09 23 53-0639 EA VRF Start-up Assistance (Carrier VRFA)	2,374.05	
23 09 23 53-0640 EA 2 Speed VFD Display Kit (Carrier CRDISKIT001A00).....	527.09	61.59
23 09 43 Pneumatic Control System For HVAC (23 09)		
23 09 43 00-0001 Pneumatic Tubing For HVAC Instrumentation and Control Devices (23 09 43)		
23 09 43 00-0002 Polyurethane Pneumatic Tubing (23 09 43 00-0001)		
23 09 43 00-0003 LF 1/4" Outside Diameter x 1/32" Thick Wall Polyurethane Pneumatic Tubing	2.40	0.92
23 09 43 00-0004 LF 5/32" Outside Diameter x 1/16" Thick Wall Polyurethane Pneumatic Tubing	3.08	0.95
23 09 43 00-0005 LF 3/8" Outside Diameter x 1/16" Thick Wall Polyurethane Pneumatic Tubing	4.07	0.98
23 09 43 00-0006 LF 1/2" Outside Diameter x 1/16" Thick Wall Polyurethane Pneumatic Tubing	5.19	1.01
23 09 43 00-0007 Fire Resistant Polyethylene Pneumatic Tubing (23 09 43 00-0001)		
23 09 43 00-0008 LF 1/4" Outside Diameter x .040" Thick Wall Fire Resistant Polyethylene Pneumatic Tubing.....	2.13	0.92
23 09 43 00-0009 LF 5/32" Outside Diameter x .030" Thick Wall Fire Resistant Polyethylene Pneumatic Tubing.....	2.29	0.95
23 09 43 00-0010 LF 3/8" Outside Diameter x .062" Thick Wall Fire Resistant Polyethylene Pneumatic Tubing.....	2.64	0.98
23 09 43 00-0011 LF 1/2" Outside Diameter x .062" Thick Wall Fire Resistant Polyethylene Pneumatic Tubing.....	3.32	1.01
23 09 43 00-0012 Nylon Pneumatic Tubing (23 09 43 00-0001)		
23 09 43 00-0013 LF 1/8" Outside Diameter x .016" Thick Wall Nylon Pneumatic Tubing	2.55	0.89
23 09 43 00-0014 LF 1/4" Outside Diameter x .035" Thick Wall Nylon Pneumatic Tubing	3.42	0.92
23 09 43 00-0015 LF 3/8" Outside Diameter x .050" Thick Wall Nylon Pneumatic Tubing	5.23	0.98
23 09 43 00-0016 LF 1/2" Outside Diameter x .062" Thick Wall Nylon Pneumatic Tubing	6.74	1.01
23 09 43 00-0017 Flexible Vinyl Pneumatic Tubing (23 09 43 00-0001)		
23 09 43 00-0018 LF 1/4" Outside Diameter Flexible Vinyl Pneumatic Tubing.....	2.49	0.92



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 09 43 00-0019 LF 3/8" Outside Diameter Flexible Vinyl Pneumatic Tubing.....	4.10	0.98
23 09 43 00-0020 LF 1/2" Outside Diameter Flexible Vinyl Pneumatic Tubing.....	4.96	1.01
23 09 43 00-0021 LF 5/8" Outside Diameter Flexible Vinyl Pneumatic Tubing.....	6.08	1.03
23 09 43 00-0022 LF 3/4" Outside Diameter Flexible Vinyl Pneumatic Tubing.....	6.89	1.06
23 09 43 00-0023 LF 1" Outside Diameter Flexible Vinyl Pneumatic Tubing.....	9.51	1.09
23 09 43 00-0024 Braided Vinyl Pneumatic Tubing (23 09 43 00-0001)		
23 09 43 00-0025 LF 5/8" Outside Diameter Braided Vinyl Pneumatic Tubing.....	3.40	1.03
23 09 43 00-0026 LF 3/4" Outside Diameter Braided Vinyl Pneumatic Tubing.....	3.97	1.06
23 09 43 00-0027 LF 1" Outside Diameter Braided Vinyl Pneumatic Tubing.....	5.01	1.09
23 09 43 00-0028 Copper Pneumatic Tubing (23 09 43 00-0001)		
23 09 43 00-0029 LF 1/4" Outside Diameter Copper Pneumatic Tubing.....	5.10	1.99
23 09 43 00-0030 LF 3/8" Outside Diameter Copper Pneumatic Tubing.....	6.22	2.29
23 09 43 00-0031 LF 1/2" Outside Diameter Copper Pneumatic Tubing.....	7.22	2.63
23 09 43 00-0032 LF 5/8" Outside Diameter Copper Pneumatic Tubing.....	8.92	3.03
23 09 43 00-0033 LF 3/4" Outside Diameter Copper Pneumatic Tubing.....	10.14	3.48
23 09 43 00-0034 Brass Couplings (23 09 43 00-0001)		
23 09 43 00-0035 Straight Brass Couplings (23 09 43 00-0034)		
Note: Barb x Barb		
23 09 43 00-0036 EA 1/4" x 1/4" Straight Brass Coupling.....	10.85	5.02
23 09 43 00-0037 EA 3/8" x 1/4" Straight Brass Coupling.....	10.99	5.02
23 09 43 00-0038 EA 3/8" x 3/8" Straight Brass Coupling.....	11.12	5.02
23 09 43 00-0039 Elbow Brass Couplings (23 09 43 00-0034)		
Note: Barb x Barb		
23 09 43 00-0040 EA 1/4" x 1/4" Elbow Brass Coupling.....	11.60	5.02
23 09 43 00-0041 EA 3/8" x 3/8" Elbow Brass Coupling.....	12.05	5.02
23 09 43 00-0042 Tee Brass Couplings (23 09 43 00-0034)		
Note: Barb x Barb		
23 09 43 00-0043 EA 1/4" x 1/4" x 1/4" Tee Brass Coupling.....	17.67	7.80
23 09 43 00-0044 EA 3/8" x 3/8" x 1/4" Tee Brass Coupling.....	20.40	8.36
23 09 43 00-0045 EA 3/8" x 3/8" x 3/8" Tee Brass Coupling.....	19.92	8.36
23 10 Facility Fuel Systems (23)		
23 11 Facility Fuel Piping (23 10)		
23 11 23 Facility Natural-Gas Piping (23 11)		
See CSI section 23 21 13 23-0001 for threaded black steel pipe, 33 52 16 00-0000 for underground MDPE and HDPE pipe.		
23 11 23 00-0001 Corrugated Stainless Steel Tubing (CSST), Flexible Gas Piping (23 11 23)		
23 11 23 00-0002 Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0001)		
Note: Includes UV resistant polyethylene jacket. Excludes fittings and pipe hangers.		
23 11 23 00-0003 LF 3/8" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	6.18	1.95
23 11 23 00-0004 LF 1/2" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	6.81	2.12
23 11 23 00-0005 LF 3/4" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	8.18	2.29
23 11 23 00-0006 LF 1" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	10.37	2.42
23 11 23 00-0007 LF 1-1/4" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	12.25	2.55
23 11 23 00-0008 LF 1-1/2" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	18.74	2.65
23 11 23 00-0009 LF 2" Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	25.46	2.82
23 11 23 00-0010 Fittings And Accessories For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0001)		
23 11 23 00-0011 Male Adaptors For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0012 EA 3/8" x 1/2", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	29.43	
23 11 23 00-0013 EA 3/8" x 3/8", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	29.43	
23 11 23 00-0014 EA 1/2" x 3/8", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	31.55	
23 11 23 00-0015 EA 1/2" x 1/2", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	31.55	
23 11 23 00-0016 EA 3/4" x 3/4", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	38.08	
23 11 23 00-0017 EA 1" x 3/4", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	52.74	
23 11 23 00-0018 EA 1" x 1", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	52.74	
23 11 23 00-0019 EA 1-1/4" x 1-1/4", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	90.30	
23 11 23 00-0020 EA 1-1/2" x 1-1/2", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	166.15	
23 11 23 00-0021 EA 2" x 2", (CSST x Threaded) Male Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	269.73	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 11 23 00-0022		Female Adaptors For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)	
23 11 23 00-0023	EA	3/8" x 1/2", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	28.47
23 11 23 00-0024	EA	1/2" x 1/2", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	31.55
23 11 23 00-0025	EA	1/2" x 3/8", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	31.55
23 11 23 00-0026	EA	3/4" x 3/4", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	38.08
23 11 23 00-0027	EA	3/4" x 1/2", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	38.08
23 11 23 00-0028	EA	1" x 3/4", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	50.38
23 11 23 00-0029	EA	1" x 1", (CSST x Threaded) Female Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	50.38
23 11 23 00-0030		Reducing Adaptors For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)	
23 11 23 00-0031	EA	3/4" x 1/2", (CSST x Threaded) Reducing Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	38.65
23 11 23 00-0032	EA	1" x 3/4", (CSST x Threaded) Reducing Adaptor For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	51.24
23 11 23 00-0033		Couplings For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)	
23 11 23 00-0034	EA	3/8" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	39.88
23 11 23 00-0035	EA	1/2" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	44.28
23 11 23 00-0036	EA	3/4" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	55.79
23 11 23 00-0037	EA	1" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	80.36
23 11 23 00-0038	EA	1-1/4" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	151.36
23 11 23 00-0039	EA	1-1/2" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	296.48
23 11 23 00-0040	EA	2" Coupling For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	493.06
23 11 23 00-0041		Tees For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)	
23 11 23 00-0042	EA	1/2" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	55.05
23 11 23 00-0043	EA	3/4" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	89.42
23 11 23 00-0044	EA	1" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	142.47
23 11 23 00-0045	EA	1-1/4" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	246.20
23 11 23 00-0046	EA	1-1/2" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	264.76
23 11 23 00-0047	EA	2" Tee For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	304.18
23 11 23 00-0048		Indoor Termination Fittings For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)	
23 11 23 00-0049	EA	3/8" x 1/2", (CSST x Threaded) Indoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	35.70
23 11 23 00-0050	EA	1/2" x 1/2", (CSST x Threaded) Indoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	36.87
23 11 23 00-0051	EA	3/4" x 3/4", (CSST x Threaded) Indoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	40.14
23 11 23 00-0052	EA	1" x 3/4", (CSST x Threaded) Indoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	54.31
23 11 23 00-0053	EA	1" x 1", (CSST x Threaded) Indoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	55.12
23 11 23 00-0054		Outdoor Termination Fittings For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)	
23 11 23 00-0055	EA	3/8" x 1/2", (CSST x Threaded) Outdoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	39.44
23 11 23 00-0056	EA	1/2" x 1/2", (CSST x Threaded) Outdoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	40.46
23 11 23 00-0057	EA	3/4" x 3/4", (CSST x Threaded) Outdoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	47.76
23 11 23 00-0058	EA	1" x 3/4", (CSST x Threaded) Outdoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	56.44
23 11 23 00-0059	EA	1" x 1", (CSST x Threaded) Outdoor Termination Fitting For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	56.44
23 11 23 00-0060		Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)	
23 11 23 00-0061	EA	3/8" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	60.64
23 11 23 00-0062	EA	1/2" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	62.18
23 11 23 00-0063	EA	3/4" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	65.30
23 11 23 00-0064	EA	1" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	105.52



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0065	EA		1-1/4" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	109.60	
23 11 23 00-0066	EA		1-1/2" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	159.44	
23 11 23 00-0067	EA		2" Indoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	199.03	
23 11 23 00-0068			Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0069	EA		3/8" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	64.27	
23 11 23 00-0070	EA		1/2" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	65.75	
23 11 23 00-0071	EA		3/4" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	72.78	
23 11 23 00-0072	EA		1" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	134.11	
23 11 23 00-0073	EA		1-1/4" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	138.42	
23 11 23 00-0074	EA		1-1/2" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	191.58	
23 11 23 00-0075	EA		2" Outdoor Floor Flange Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	242.56	
23 11 23 00-0076			Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0077	EA		1/2" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	37.66	
23 11 23 00-0078	EA		3/4" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	40.70	
23 11 23 00-0079	EA		1" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	62.46	
23 11 23 00-0080	EA		1-1/4" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	96.83	
23 11 23 00-0081	EA		1-1/2" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	189.40	
23 11 23 00-0082	EA		2" Indoor Bracket Termination Assembly For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	302.37	
23 11 23 00-0083			Stub-Outs For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010) Note: Includes mounting plate.		
23 11 23 00-0084	EA		1/2" Appliance Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	32.45	
23 11 23 00-0085	EA		3/4" Appliance Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	35.41	
23 11 23 00-0086	EA		1/2" Fireplace Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	32.49	
23 11 23 00-0087	EA		1/2" Meter Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	32.60	
23 11 23 00-0088	EA		3/4" Meter Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	33.96	
23 11 23 00-0089	EA		1" Meter Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	40.54	
23 11 23 00-0090	EA		1-1/4" Meter Stub-Out For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	48.98	
23 11 23 00-0091			Flush Mount Gas Valve Kits For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010) Note: Includes flush fitting plastic valve box and 90 degree brass shut-off valve.		
23 11 23 00-0092	EA		1/2" x 1/2", (CSST x Threaded) Flush Mount Gas Valve Kit For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	92.09	20.52
23 11 23 00-0093	EA		3/4" x 3/4", (CSST x Threaded) Flush Mount Gas Valve Kit For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	104.30	21.54
23 11 23 00-0094			Shut-Off Valves For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0095	EA		3/8" x 1/2", (CSST x Threaded) Shut-Off Valve For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	65.55	17.96
23 11 23 00-0096	EA		1/2" x 1/2", (CSST x Threaded) Shut-Off Valve For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	76.19	21.34
23 11 23 00-0097	EA		3/4" x 3/4", (CSST x Threaded) Shut-Off Valve For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	93.58	25.66
23 11 23 00-0098	EA		1" x 3/4", (CSST x Threaded) Shut-Off Valve For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	116.73	34.27
23 11 23 00-0099			Manifolds For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010) Note: Includes mounting hardware.		
23 11 23 00-0100	EA		1/2" Inlet, Three 1/2" Outlets, Manifold For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	80.62	21.34
23 11 23 00-0101	EA		3/4" Inlet, Three 1/2" Outlets, Manifold For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	91.26	25.66
23 11 23 00-0102	EA		1/2" Inlet, Four 1/2" Outlets, Manifold For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	121.23	21.34
23 11 23 00-0103	EA		3/4" Inlet, Four 1/2" Outlets, Manifold For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	95.14	25.66
23 11 23 00-0104	EA		2" x 1-1/2" Inlet, Four 1" Outlets, Manifold For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	178.98	64.13
23 11 23 00-0105			Pressure Regulators For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe (23 11 23 00-0010)		
23 11 23 00-0106	EA		1/2" Port, 250 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	85.45	21.34
23 11 23 00-0107	EA		1/2" Port, 355 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	85.45	21.34
23 11 23 00-0108	EA		1/2" Port, 425 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	121.23	21.34
23 11 23 00-0109	EA		3/4" Port, 550 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	129.77	25.66
23 11 23 00-0110	EA		3/4" Port, 810 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	129.77	25.66

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0111	EA	1" Port, 550 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	146.87	34.27
23 11 23 00-0112	EA	1-1/4" Port, 1,000 MBTU Pressure Regulator For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe	221.71	38.47
23 11 23 00-0113	EA	1/2" Port, 200 MBTU Pressure Regulator With Over Pressure Protection Device For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	114.90	21.34
23 11 23 00-0114	EA	3/4" Port, 425 MBTU Pressure Regulator With Over Pressure Protection Device For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	291.78	25.66
23 11 23 00-0115	EA	1-1/4" Port, 900 MBTU Pressure Regulator With Over Pressure Protection Device For Corrugated Stainless Steel Tubing (CSST), Flexible Gas Pipe.....	713.43	38.47
23 11 23 00-0116		Polymer Coated Stainless Steel, Flexible Gas Appliance Connectors (Brass Craft) (23 11 23)		
23 11 23 00-0117		3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0118	EA	12" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-12).....	46.10	15.39
23 11 23 00-0119	EA	18" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-18).....	50.81	16.41
23 11 23 00-0120	EA	24" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-24).....	55.31	16.41
23 11 23 00-0121	EA	30" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-30).....	58.12	17.44
23 11 23 00-0122	EA	36" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-36).....	61.71	17.44
23 11 23 00-0123	EA	48" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-48).....	69.94	18.47
23 11 23 00-0124	EA	60" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-60).....	77.40	18.47
23 11 23 00-0125	EA	72" Length, 3/4" MIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC11-72).....	84.78	19.50
23 11 23 00-0126		3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0127	EA	12" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-12).....	46.10	15.39
23 11 23 00-0128	EA	18" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-18).....	50.81	16.41
23 11 23 00-0129	EA	24" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-24).....	55.31	16.41
23 11 23 00-0130	EA	30" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-30).....	58.12	17.44
23 11 23 00-0131	EA	36" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-36).....	61.71	17.44
23 11 23 00-0132	EA	48" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-48).....	69.94	18.47
23 11 23 00-0133	EA	60" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-60).....	77.40	18.47
23 11 23 00-0134	EA	72" Length, 3/4" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC14-72).....	84.78	19.50
23 11 23 00-0135		3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0136	EA	12" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-12).....	46.10	15.39
23 11 23 00-0137	EA	18" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-18).....	50.81	16.41
23 11 23 00-0138	EA	24" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-24).....	55.31	16.41
23 11 23 00-0139	EA	30" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-30).....	58.12	17.44
23 11 23 00-0140	EA	36" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-36).....	61.71	17.44
23 11 23 00-0141	EA	48" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-48).....	69.94	18.47
23 11 23 00-0142	EA	60" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-60).....	77.40	18.47
23 11 23 00-0143	EA	72" Length, 3/4" MIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC15-72).....	84.78	19.50
23 11 23 00-0144		3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0145	EA	12" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-12).....	46.10	15.39
23 11 23 00-0146	EA	18" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-18).....	50.81	16.41
23 11 23 00-0147	EA	24" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-24).....	66.95	16.41



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0148	EA	30" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-30).....	58.12	17.44
23 11 23 00-0149	EA	36" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-36).....	61.71	17.44
23 11 23 00-0150	EA	48" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-48).....	69.94	18.47
23 11 23 00-0151	EA	60" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-60).....	77.40	18.47
23 11 23 00-0152	EA	72" Length, 3/4" FIP x 3/4" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC21-72).....	84.78	19.50
23 11 23 00-0153		3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0154	EA	12" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-12).....	50.59	15.39
23 11 23 00-0155	EA	18" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-18).....	56.39	16.41
23 11 23 00-0156	EA	24" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-24).....	55.31	16.41
23 11 23 00-0157	EA	30" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-30).....	65.23	17.44
23 11 23 00-0158	EA	36" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-36).....	61.71	17.44
23 11 23 00-0159	EA	48" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-48).....	69.94	18.47
23 11 23 00-0160	EA	60" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-60).....	77.40	18.47
23 11 23 00-0161	EA	72" Length, 3/4" FIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC22-72).....	84.78	19.50
23 11 23 00-0162		3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0163	EA	12" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-12).....	46.10	15.39
23 11 23 00-0164	EA	24" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-24).....	61.90	16.41
23 11 23 00-0165	EA	30" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-30).....	58.12	17.44
23 11 23 00-0166	EA	36" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-36).....	61.71	17.44
23 11 23 00-0167	EA	48" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-48).....	69.94	18.47
23 11 23 00-0168	EA	60" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-60).....	89.26	18.47
23 11 23 00-0169	EA	72" Length, 3/4" FIP Elbow x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC23-72).....	84.78	19.50
23 11 23 00-0170		3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0171	EA	12" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-12).....	46.10	15.39
23 11 23 00-0172	EA	18" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-18).....	50.81	16.41
23 11 23 00-0173	EA	24" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-24).....	55.31	16.41
23 11 23 00-0174	EA	30" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-30).....	58.12	17.44
23 11 23 00-0175	EA	36" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-36).....	61.71	17.44
23 11 23 00-0176	EA	48" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-48).....	69.94	18.47
23 11 23 00-0177	EA	60" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-60).....	77.40	18.47
23 11 23 00-0178	EA	72" Length, 3/4" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC24-72).....	84.78	19.50
23 11 23 00-0179		3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0180	EA	12" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-12).....	46.10	15.39
23 11 23 00-0181	EA	18" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-18).....	50.81	16.41
23 11 23 00-0182	EA	24" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-24).....	55.31	16.41
23 11 23 00-0183	EA	30" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-30).....	58.12	17.44
23 11 23 00-0184	EA	36" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-36).....	61.71	17.44

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0185	EA	48" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-48).....	69.94	18.47
23 11 23 00-0186	EA	60" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-60).....	77.40	18.47
23 11 23 00-0187	EA	72" Length, 3/4" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC25-72).....	84.78	19.50
23 11 23 00-0188		3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0189	EA	18" Length, 3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC34-18).....	56.39	16.41
23 11 23 00-0190	EA	24" Length, 3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC34-24).....	55.31	16.41
23 11 23 00-0191	EA	30" Length, 3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC34-30).....	65.23	17.44
23 11 23 00-0192	EA	36" Length, 3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC34-36).....	69.58	17.44
23 11 23 00-0193	EA	48" Length, 3/4" FIP Elbow x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC34-48).....	79.92	18.47
23 11 23 00-0194		1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0195	EA	12" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-12).....	46.10	15.39
23 11 23 00-0196	EA	18" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-18).....	50.81	16.41
23 11 23 00-0197	EA	24" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-24).....	50.66	16.41
23 11 23 00-0198	EA	30" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-30).....	58.12	17.44
23 11 23 00-0199	EA	36" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-36).....	56.14	17.44
23 11 23 00-0200	EA	48" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-48).....	71.64	18.47
23 11 23 00-0201	EA	60" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-60).....	77.40	18.47
23 11 23 00-0202	EA	72" Length, 1/2" MIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC44-72).....	84.78	19.50
23 11 23 00-0203		1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0204	EA	12" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-12).....	46.10	15.39
23 11 23 00-0205	EA	18" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-18).....	47.02	16.41
23 11 23 00-0206	EA	24" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-24).....	48.09	16.41
23 11 23 00-0207	EA	30" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-30).....	58.12	17.44
23 11 23 00-0208	EA	36" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-36).....	61.71	17.44
23 11 23 00-0209	EA	48" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-48).....	62.67	18.47
23 11 23 00-0210	EA	60" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-60).....	77.40	18.47
23 11 23 00-0211	EA	72" Length, 1/2" FIP x 1/2" MIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC54-72).....	84.78	19.50
23 11 23 00-0212		1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0213	EA	12" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-12).....	46.10	15.39
23 11 23 00-0214	EA	18" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-18).....	50.81	16.41
23 11 23 00-0215	EA	24" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-24).....	55.31	16.41
23 11 23 00-0216	EA	30" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-30).....	58.12	17.44
23 11 23 00-0217	EA	36" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-36).....	52.27	17.44
23 11 23 00-0218	EA	48" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-48).....	69.94	18.47
23 11 23 00-0219	EA	60" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-60).....	77.40	18.47
23 11 23 00-0220	EA	72" Length, 1/2" FIP x 1/2" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC55-72).....	84.78	19.50



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0221		3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0222	EA	12" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-12)	62.08	15.39
23 11 23 00-0223	EA	18" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-18)	66.76	16.41
23 11 23 00-0224	EA	24" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-24)	71.26	16.41
23 11 23 00-0225	EA	30" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-30)	74.04	17.44
23 11 23 00-0226	EA	36" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-36)	77.79	17.44
23 11 23 00-0227	EA	48" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-48)	85.52	18.47
23 11 23 00-0228	EA	60" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-60)	93.62	18.47
23 11 23 00-0229	EA	72" Length, 3/4" MIP x 3/4" FIP, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC1J-72)	101.02	19.50
23 11 23 00-0230		3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0231	EA	12" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-12)	72.34	20.52
23 11 23 00-0232	EA	18" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-18)	77.02	21.54
23 11 23 00-0233	EA	24" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-24)	81.53	21.54
23 11 23 00-0234	EA	30" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-30)	84.30	22.57
23 11 23 00-0235	EA	36" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-36)	88.04	22.57
23 11 23 00-0236	EA	48" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-48)	95.78	23.60
23 11 23 00-0237	EA	60" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-60)	103.88	23.60
23 11 23 00-0238	EA	72" Length, 3/4" FIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2J-72)	111.28	24.63
23 11 23 00-0239		3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0240	EA	12" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-12)	72.34	20.52
23 11 23 00-0241	EA	18" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-18)	77.02	21.54
23 11 23 00-0242	EA	24" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-24)	81.53	21.54
23 11 23 00-0243	EA	30" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-30)	84.30	22.57
23 11 23 00-0244	EA	36" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-36)	88.04	22.57
23 11 23 00-0245	EA	48" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-48)	95.78	23.60
23 11 23 00-0246	EA	60" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-60)	103.88	23.60
23 11 23 00-0247	EA	72" Length, 3/4" MIP x 3/4" FIP Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-72)	111.28	24.63
23 11 23 00-0248		3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0249	EA	12" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-12)	85.33	20.52
23 11 23 00-0250	EA	18" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-18)	90.01	21.54
23 11 23 00-0251	EA	24" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-24)	94.52	21.54
23 11 23 00-0252	EA	30" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-30)	97.29	22.57
23 11 23 00-0253	EA	36" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-36)	101.05	22.57
23 11 23 00-0254	EA	48" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-48)	108.77	23.60
23 11 23 00-0255	EA	60" Length, 3/4" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4J-60)	116.88	23.60
23 11 23 00-0256		3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0257	EA	12" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-12).....	85.33	20.52
23 11 23 00-0258	EA	18" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-18).....	90.01	21.54
23 11 23 00-0259	EA	24" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-24).....	94.52	21.54
23 11 23 00-0260	EA	36" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-36).....	101.05	22.57
23 11 23 00-0261	EA	48" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-48).....	108.77	23.60
23 11 23 00-0262	EA	60" Length, 3/4" FIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC2P-60).....	116.88	23.60
23 11 23 00-0263		1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0264	EA	12" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-12).....	85.33	20.52
23 11 23 00-0265	EA	18" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-18).....	90.01	21.54
23 11 23 00-0266	EA	24" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-24).....	94.52	21.54
23 11 23 00-0267	EA	30" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-30).....	97.29	22.57
23 11 23 00-0268	EA	36" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-36).....	101.05	22.57
23 11 23 00-0269	EA	48" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-48).....	108.77	23.60
23 11 23 00-0270	EA	60" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-60).....	116.88	23.60
23 11 23 00-0271	EA	72" Length, 1/2" MIP x 3/4" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4P-72).....	124.27	24.63
23 11 23 00-0272		1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0273	EA	12" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-12).....	68.92	20.52
23 11 23 00-0274	EA	18" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-18).....	73.62	21.54
23 11 23 00-0275	EA	24" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-24).....	78.15	21.54
23 11 23 00-0276	EA	30" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-30).....	80.89	22.57
23 11 23 00-0277	EA	36" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-36).....	84.63	22.57
23 11 23 00-0278	EA	48" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-48).....	92.35	23.60
23 11 23 00-0279	EA	72" Length, 1/2" MIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC4K-72).....	107.82	24.63
23 11 23 00-0280		1/2" FIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft) (23 11 23 00-0116)		
23 11 23 00-0281	EA	18" Length, 1/2" FIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC5K-18).....	82.86	21.54
23 11 23 00-0282	EA	24" Length, 1/2" FIP x 1/2" FIP Angle Ball Valve, 1/2" Diameter, Polymer Coated Stainless Steel, Flexible Gas Appliance Connector (Brass Craft CSSC5K-24).....	88.41	21.54
23 11 23 00-0283		Quarter-Turn, Gas Ball Valve (23 11 23)		
23 11 23 00-0284	EA	3/8" FIP x FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-102).....	41.62	10.92
23 11 23 00-0285	EA	1/2" FIP x FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-103).....	41.58	11.14
23 11 23 00-0286	EA	3/4" FIP x FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-104).....	60.16	12.26
23 11 23 00-0287	EA	3/8" Flare x 1/2" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-112).....	41.23	10.92
23 11 23 00-0288	EA	1/2" Flare x 1/2" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-113).....	43.45	11.14
23 11 23 00-0289	EA	1/2" Flare x 3/4" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-118).....	48.95	11.14
23 11 23 00-0290	EA	5/8" Flare x 1/2" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-121).....	52.85	11.70
23 11 23 00-0291	EA	5/8" (7/8" -14) Flare x 3/4" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-114).....	55.65	11.70
23 11 23 00-0292	EA	5/8" (15/16" -16) Flare x 3/4" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-115).....	55.65	11.70
23 11 23 00-0293	EA	3/8" Flare x Flare, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-312).....	43.32	10.92
23 11 23 00-0294	EA	1/2" Flare x Flare, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-313).....	45.54	11.14
23 11 23 00-0295	EA	5/8" Flare x Flare, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-314).....	57.12	11.70
23 11 23 00-0296	EA	1/2" FIP x 1/8" Texas Pattern, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-413).....	45.82	11.14
23 11 23 00-0297	EA	3/4" FIP x 1/8" Texas Pattern, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-414).....	61.74	12.26
23 11 23 00-0298	EA	3/8" (9/16" -24) Flare x 1/2" FIP, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3000 102-119).....	43.21	10.92
23 11 23 00-0299	EA	3/8" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-612).....	40.95	10.92



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 23 00-0300 EA 1/2" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-613)	41.57	11.14
23 11 23 00-0301 EA 3/4" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-614)	57.14	12.26
23 11 23 00-0302 EA 1" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-615)	78.09	13.93
23 11 23 00-0303 EA 1-1/4" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-616)	112.84	14.48
23 11 23 00-0304 EA 1-1/2" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-617)	134.37	16.71
23 11 23 00-0305 EA 2" T-Handle, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3001 102-618)	166.29	20.05
23 11 23 00-0306 EA 1/2" Flathead, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3002 102-713)	42.78	11.14
23 11 23 00-0307 EA 3/4" Flathead, 175 PSI, Forged Brass, Quarter-Turn, Gas Ball Valve (Legend Blue Top T-3002 102-714)	56.77	12.26
23 11 23 00-0308 Gas Stops (23 11 23)		
23 11 23 00-0309 Brass/Bronze Gas Stops (23 11 23 00-0308)		
Note: Flat or square head		
23 11 23 00-0310 EA 3/8" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596)	52.99	11.14
23 11 23 00-0311 EA 1/2" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596)	52.81	11.14
23 11 23 00-0312 EA 3/4" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596)	69.14	12.26
23 11 23 00-0313 EA 1" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596)	98.50	13.93
23 11 23 00-0314 EA 1-1/4" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596)	131.55	14.82
23 11 23 00-0315 EA 1-1/2" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596)	166.83	17.16
23 11 23 00-0316 EA 2" Threaded, Flat Head, Bronze Gas Valve (A.Y. McDonald 10596)	233.78	20.27
23 11 23 00-0317 Iron Body Gas Stops (23 11 23 00-0308)		
23 11 23 00-0318 EA 1/2" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B)	72.89	11.14
23 11 23 00-0319 EA 3/4" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B)	88.89	12.26
23 11 23 00-0320 EA 1" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B)	110.41	13.93
23 11 23 00-0321 EA 1-1/4" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B)	143.12	14.82
23 11 23 00-0322 EA 1-1/2" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B)	181.37	17.16
23 11 23 00-0323 EA 2" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B)	237.08	20.27
23 11 23 00-0324 EA 2-1/2" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B)	468.16	27.40
23 11 23 00-0325 EA 3" Threaded, Bronze Flat Head Plug, Iron Body Gas Valve (A.Y. McDonald 10685B)	631.85	31.81
23 11 23 00-0326 Bronze Body Solenoid Valves, 150 PSI Gas (23 11 23)		
23 11 23 00-0327 EA 1/4" Solenoid Valve, Bronze, 150 PSI, Gas	194.78	11.14
23 11 23 00-0328 EA 1/2" Solenoid Valve, Bronze, 150 PSI, Gas	227.37	11.14
23 11 23 00-0329 EA 3/4" Solenoid Valve, Bronze, 150 PSI, Gas	289.16	12.26
23 11 23 00-0330 EA 1" Solenoid Valve, Bronze, 150 PSI, Gas	435.68	13.93
23 11 23 00-0331 EA 1-1/2" Solenoid Valve, Bronze, 150 PSI, Gas	781.78	17.16
23 11 23 00-0332 EA 2" Solenoid Valve, Bronze, 150 PSI, Gas	1,336.70	20.27
23 11 23 00-0333 EA 2-1/2" Solenoid Valve, Bronze, 150 PSI, Gas	1,654.48	27.40
23 11 23 00-0334 EA 3" Solenoid Valve, Bronze, 150 PSI, Gas	2,499.58	31.81
23 11 26 Facility Liquefied-Petroleum Gas Piping (23 11)		
23 11 26 00-0001 Fiberglass Reinforced Plastic Pipe And Fittings (23 11 26)		
23 11 26 00-0002 Fiberglass Reinforced Plastic Pipe (23 11 26 00-0001)		
Note: For double containment fiberglass pipe, select both outer containment pipe size and inner containment pipe size (add modifier for use as inner pipe).		
23 11 26 00-0003 LF 2" Fiberglass Reinforced Plastic Pipe	20.71	7.39
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-8.27	
23 11 26 00-0004 LF 3" Fiberglass Reinforced Plastic Pipe	24.82	8.83
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-9.93	
23 11 26 00-0005 LF 4" Fiberglass Reinforced Plastic Pipe	32.81	13.03
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-14.63	
23 11 26 00-0006 LF 5" Fiberglass Reinforced Plastic Pipe	38.56	14.98
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-16.47	
23 11 26 00-0007 LF 6" Fiberglass Reinforced Plastic Pipe	45.01	16.73
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-18.85	
23 11 26 00-0008 LF 8" Fiberglass Reinforced Plastic Pipe	62.27	20.34
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-22.85	
23 11 26 00-0009 LF 10" Fiberglass Reinforced Plastic Pipe	82.74	24.18
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-27.24	
23 11 26 00-0010 LF 12" Fiberglass Reinforced Plastic Pipe	240.91	30.45
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-34.27	
23 11 26 00-0011 Fiberglass Reinforced Plastic Fittings (23 11 26 00-0001)		
23 11 26 00-0012 Fiberglass Reinforced Plastic Flanged 90 Degree Elbows (23 11 26 00-0011)		
23 11 26 00-0013 EA 2" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow	158.48	73.57
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-82.75	
23 11 26 00-0014 EA 3" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow	186.96	88.34
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-99.30	
23 11 26 00-0015 EA 4" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow	223.98	102.60
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-115.35	
23 11 26 00-0016 EA 5" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow	278.98	120.29
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-132.70	
23 11 26 00-0017 EA 6" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow	336.24	134.96
For Use As Inner Pipe In Double Wall Pipe System, Deduct		
	-151.76	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 26 00-0018	EA	8" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow	482.02	168.65
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-189.70	
23 11 26 00-0019	EA	10" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow	619.55	203.16
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-228.45	
23 11 26 00-0020	EA	12" Fiberglass Reinforced Plastic Flanged 90 Degree Elbow	1,770.14	251.92
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-283.28	
23 11 26 00-0021		Fiberglass Reinforced Plastic Flanged 45 Degree Elbows (23 11 26 00-0011)		
23 11 26 00-0022	EA	2" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow	158.84	73.57
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-82.75	
23 11 26 00-0023	EA	3" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow	187.07	88.34
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-99.30	
23 11 26 00-0024	EA	4" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow	224.32	102.71
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-115.43	
23 11 26 00-0025	EA	5" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow	281.64	122.00
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-134.67	
23 11 26 00-0026	EA	6" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow	336.10	134.96
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-151.76	
23 11 26 00-0027	EA	8" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow	482.02	168.65
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-189.70	
23 11 26 00-0028	EA	10" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow	1,335.52	203.16
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-228.45	
23 11 26 00-0029	EA	12" Fiberglass Reinforced Plastic Flanged 45 Degree Elbow	1,770.14	251.92
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-283.28	
23 11 26 00-0030		Fiberglass Reinforced Plastic Flanged Tees (23 11 26 00-0011)		
23 11 26 00-0031	EA	2" Fiberglass Reinforced Plastic Flanged Tee	379.79	110.40
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-124.12	
23 11 26 00-0032	EA	3" Fiberglass Reinforced Plastic Flanged Tee	471.99	132.97
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-149.48	
23 11 26 00-0033	EA	4" Fiberglass Reinforced Plastic Flanged Tee	535.57	154.01
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-173.17	
23 11 26 00-0034	EA	5" Fiberglass Reinforced Plastic Flanged Tee	689.09	182.94
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-202.09	
23 11 26 00-0035	EA	6" Fiberglass Reinforced Plastic Flanged Tee	839.10	203.16
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-228.45	
23 11 26 00-0036	EA	8" Fiberglass Reinforced Plastic Flanged Tee	1,057.51	251.92
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-283.28	
23 11 26 00-0037	EA	10" Fiberglass Reinforced Plastic Flanged Tee	1,745.97	304.73
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-342.68	
23 11 26 00-0038	EA	12" Fiberglass Reinforced Plastic Flanged Tee	2,353.94	370.50
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-416.59	
23 11 26 00-0039		Fiberglass Reinforced Plastic Flanged Wyes (23 11 26 00-0011)		
23 11 26 00-0040	EA	2" Fiberglass Reinforced Plastic Flanged Wye	524.85	110.40
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-124.12	
23 11 26 00-0041	EA	3" Fiberglass Reinforced Plastic Flanged Wye	679.36	132.77
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-149.30	
23 11 26 00-0042	EA	4" Fiberglass Reinforced Plastic Flanged Wye	799.28	154.01
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-173.15	
23 11 26 00-0043	EA	5" Fiberglass Reinforced Plastic Flanged Wye	913.63	182.94
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-202.09	
23 11 26 00-0044	EA	6" Fiberglass Reinforced Plastic Flanged Wye	1,024.51	203.16
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-228.45	
23 11 26 00-0045	EA	8" Fiberglass Reinforced Plastic Flanged Wye	1,350.73	251.92
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-283.28	
23 11 26 00-0046	EA	10" Fiberglass Reinforced Plastic Flanged Wye	2,115.81	304.73
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-342.68	
23 11 26 00-0047	EA	12" Fiberglass Reinforced Plastic Flanged Wye	2,757.09	370.50
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-416.59	
23 11 26 00-0048		Fiberglass Reinforced Plastic Flanged Concentric Reducers (23 11 26 00-0011)		
23 11 26 00-0049	EA	2" Fiberglass Reinforced Plastic Flanged Concentric Reducer	291.92	73.57
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-82.75	
23 11 26 00-0050	EA	3" Fiberglass Reinforced Plastic Flanged Concentric Reducer	382.76	88.34
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-99.30	
23 11 26 00-0051	EA	4" Fiberglass Reinforced Plastic Flanged Concentric Reducer	416.09	102.71
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-115.43	
23 11 26 00-0052	EA	5" Fiberglass Reinforced Plastic Flanged Concentric Reducer	482.54	122.00
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-134.67	
23 11 26 00-0053	EA	6" Fiberglass Reinforced Plastic Flanged Concentric Reducer	546.06	134.96
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-151.76	
23 11 26 00-0054	EA	8" Fiberglass Reinforced Plastic Flanged Concentric Reducer	732.04	168.65
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-189.70	
23 11 26 00-0055	EA	10" Fiberglass Reinforced Plastic Flanged Concentric Reducer	942.37	203.16
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-228.45	
23 11 26 00-0056	EA	12" Fiberglass Reinforced Plastic Flanged Concentric Reducer	1,301.66	251.92
		<i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	-283.28	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 26 00-0057		Fiberglass Reinforced Plastic Bell x Male Or Female Adapters (23 11 26 00-0011)		
23 11 26 00-0058	EA	2" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	227.09	73.57
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-82.75	
23 11 26 00-0059	EA	3" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	258.95	88.34
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-99.30	
23 11 26 00-0060	EA	4" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	292.40	102.71
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-115.43	
23 11 26 00-0061	EA	4" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	361.39	122.00
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-134.67	
23 11 26 00-0062	EA	6" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	427.51	134.96
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-151.76	
23 11 26 00-0063	EA	8" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	405.39	168.65
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-189.70	
23 11 26 00-0064	EA	10" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	523.68	203.16
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-228.45	
23 11 26 00-0065	EA	12" Fiberglass Reinforced Plastic Bell x Male Or Female Adapter	854.07	251.92
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-283.28	
23 11 26 00-0066		Fiberglass Reinforced Plastic Nipples (23 11 26 00-0011)		
23 11 26 00-0067	EA	2" x 6" Fiberglass Reinforced Plastic Nipple	45.48	8.83
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-9.93	
23 11 26 00-0068	EA	2" x 12" Fiberglass Reinforced Plastic Nipple	90.88	17.64
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-19.81	
23 11 26 00-0069	EA	3" x 8" Fiberglass Reinforced Plastic Nipple	161.19	13.54
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-15.23	
23 11 26 00-0070	EA	3" x 12" Fiberglass Reinforced Plastic Nipple	185.95	18.92
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-21.27	
23 11 26 00-0071	EA	4" x 8" Fiberglass Reinforced Plastic Nipple	175.44	13.45
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-15.18	
23 11 26 00-0072	EA	4" x 12" Fiberglass Reinforced Plastic Nipple	209.42	20.24
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-22.76	
23 11 26 00-0073	EA	6" x 12" Fiberglass Reinforced Plastic Nipple	261.46	22.66
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-25.04	
23 11 26 00-0074	EA	6" x 12" Fiberglass Reinforced Plastic Nipple	313.44	24.28
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-27.35	
23 11 26 00-0075	EA	8" x 18" Fiberglass Reinforced Plastic Nipple	158.54	28.33
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-31.87	
23 11 26 00-0076	EA	8" x 24" Fiberglass Reinforced Plastic Nipple	215.39	40.47
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-45.50	
23 11 26 00-0077	EA	10" x 18" Fiberglass Reinforced Plastic Nipple	274.91	28.83
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-32.39	
23 11 26 00-0078	EA	10" x 24" Fiberglass Reinforced Plastic Nipple	412.70	43.10
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-48.51	
23 11 26 00-0079	EA	12" x 18" Fiberglass Reinforced Plastic Nipple	322.83	29.75
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-33.41	
23 11 26 00-0080	EA	12" x 24" Fiberglass Reinforced Plastic Nipple	419.85	44.52
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-50.12	
23 11 26 00-0081		Fiberglass Reinforced Plastic Sleeve Couplings (23 11 26 00-0011)		
23 11 26 00-0082	EA	2" Fiberglass Reinforced Plastic Sleeve Coupling	139.94	73.57
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-82.75	
23 11 26 00-0083	EA	3" Fiberglass Reinforced Plastic Sleeve Coupling	168.45	88.34
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-99.30	
23 11 26 00-0084	EA	4" Fiberglass Reinforced Plastic Sleeve Coupling	194.50	102.71
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-115.43	
23 11 26 00-0085	EA	5" Fiberglass Reinforced Plastic Sleeve Coupling	235.68	122.00
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-134.67	
23 11 26 00-0086	EA	6" Fiberglass Reinforced Plastic Sleeve Coupling	273.97	134.96
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-151.76	
23 11 26 00-0087	EA	8" Fiberglass Reinforced Plastic Sleeve Coupling	357.99	168.65
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-189.70	
23 11 26 00-0088	EA	10" Fiberglass Reinforced Plastic Sleeve Coupling	464.58	203.16
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-228.45	
23 11 26 00-0089	EA	12" Fiberglass Reinforced Plastic Sleeve Coupling	566.34	251.92
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-283.28	
23 11 26 00-0090		Fiberglass Reinforced Plastic Flanges (23 11 26 00-0011)		
23 11 26 00-0091	EA	2" Fiberglass Reinforced Plastic Flange	143.64	73.57
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-82.75	
23 11 26 00-0092	EA	3" Fiberglass Reinforced Plastic Flange	173.35	88.34
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-99.30	
23 11 26 00-0093	EA	4" Fiberglass Reinforced Plastic Flange	206.89	101.07
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-113.62	
23 11 26 00-0094	EA	5" Fiberglass Reinforced Plastic Flange	251.32	120.29
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-132.79	
23 11 26 00-0095	EA	6" Fiberglass Reinforced Plastic Flange	295.46	134.96
		For Use As Inner Pipe In Double Wall Pipe System, Deduct	-151.76	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 11 Facility Fuel Piping**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 26 00-0096 EA 8" Fiberglass Reinforced Plastic Flange <i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	368.67 -181.59	161.47
23 11 26 00-0097 EA 10" Fiberglass Reinforced Plastic Flange <i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	498.01 -228.45	203.16
23 11 26 00-0098 EA 12" Fiberglass Reinforced Plastic Flange <i>For Use As Inner Pipe In Double Wall Pipe System, Deduct</i>	700.06 -283.28	251.92
23 11 26 00-0099 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing And Fittings (23 11 26)		
23 11 26 00-0100 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing (23 11 26 00-0099)		
23 11 26 00-0101 LF 2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	140.24	31.70
23 11 26 00-0102 LF 3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	167.26	37.56
23 11 26 00-0103 LF 4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	210.64	55.41
23 11 26 00-0104 LF 6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	298.22	71.83
23 11 26 00-0105 LF 8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	435.30	87.01
23 11 26 00-0106 LF 10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	599.53	103.20
23 11 26 00-0107 LF 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing	766.67	130.21
23 11 26 00-0108 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Fittings (23 11 26 00-0099)		
23 11 26 00-0109 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbows (23 11 26 00-0108)		
23 11 26 00-0110 EA 2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	2,555.51	392.36
23 11 26 00-0111 EA 3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	2,935.69	470.95
23 11 26 00-0112 EA 4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	3,688.09	547.29
23 11 26 00-0113 EA 6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	6,550.15	719.64
23 11 26 00-0114 EA 8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	10,710.13	899.72
23 11 26 00-0115 EA 10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	14,492.38	1,082.44
23 11 26 00-0116 EA 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 90 Degree Elbow	19,392.11	1,340.43
23 11 26 00-0117 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbows (23 11 26 00-0108)		
23 11 26 00-0118 EA 2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow	2,559.79	392.36
23 11 26 00-0119 EA 3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow	2,928.18	470.95
23 11 26 00-0120 EA 4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow	3,682.20	547.29
23 11 26 00-0121 EA 6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow	6,515.48	719.64
23 11 26 00-0122 EA 8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow	10,659.93	899.72
23 11 26 00-0123 EA 10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow	14,424.12	1,082.95
23 11 26 00-0124 EA 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged 45 Degree Elbow	19,303.48	1,343.47
23 11 26 00-0125 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tees (23 11 26 00-0108)		
23 11 26 00-0126 EA 2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	3,543.30	588.54
23 11 26 00-0127 EA 3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	4,449.28	709.31
23 11 26 00-0128 EA 4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	5,014.55	821.35
23 11 26 00-0129 EA 6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	8,261.03	1,083.45
23 11 26 00-0130 EA 8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	10,455.03	1,343.47
23 11 26 00-0131 EA 10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	18,439.48	1,623.31
23 11 26 00-0132 EA 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Tee	25,282.05	1,968.21
23 11 26 00-0133 Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wyes (23 11 26 00-0108)		
23 11 26 00-0134 EA 2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	5,344.42	588.54
23 11 26 00-0135 EA 3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	7,025.86	708.49
23 11 26 00-0136 EA 4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	8,289.17	821.35
23 11 26 00-0137 EA 6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	10,563.20	1,083.45
23 11 26 00-0138 EA 8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	14,095.81	1,343.47
23 11 26 00-0139 EA 10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	23,031.67	1,623.31



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Facility Fuel Systems			23 10
Facility Fuel Piping			23 11

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 11 26 00-0140	EA	12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Wye	30,287.81	1,968.21
23 11 26 00-0141		Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducers (23 11 26 00-0108)		
23 11 26 00-0142	EA	2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer	2,842.92	392.36
23 11 26 00-0143	EA	3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer	3,814.65	470.95
23 11 26 00-0144	EA	4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer	4,075.92	547.29
23 11 26 00-0145	EA	6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer	5,346.75	719.64
23 11 26 00-0146	EA	8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer	7,297.85	899.72
23 11 26 00-0147	EA	10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer	9,541.83	1,082.44
23 11 26 00-0148	EA	12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanged Concentric Reducer	13,481.95	1,340.43
23 11 26 00-0149		Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapters (23 11 26 00-0108)		
23 11 26 00-0150	EA	2" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter	2,037.98	392.36
23 11 26 00-0151	EA	3" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter	2,277.40	470.95
23 11 26 00-0152	EA	4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter	2,540.15	547.29
23 11 26 00-0153	EA	6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter	3,874.73	719.64
23 11 26 00-0154	EA	8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter	3,242.00	899.72
23 11 26 00-0155	EA	10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter	4,343.04	1,082.44
23 11 26 00-0156	EA	12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Bell x Male Or Female Adapter	7,924.43	1,340.43
23 11 26 00-0157		Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipples (23 11 26 00-0108)		
23 11 26 00-0158	EA	2" x 6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	470.86	47.10
23 11 26 00-0159	EA	2" x 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	941.35	93.98
23 11 26 00-0160	EA	3" x 8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	1,857.59	72.23
23 11 26 00-0161	EA	3" x 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	2,108.00	100.87
23 11 26 00-0162	EA	4" x 8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	2,035.04	71.94
23 11 26 00-0163	EA	4" x 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	2,385.44	107.95
23 11 26 00-0164	EA	6" x 12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	3,633.62	129.71
23 11 26 00-0165	EA	8" x 18" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	1,667.53	151.16
23 11 26 00-0166	EA	8" x 24" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	2,244.72	215.80
23 11 26 00-0167	EA	10" x 18" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	3,107.66	153.58
23 11 26 00-0168	EA	10" x 24" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	4,666.05	230.06
23 11 26 00-0169	EA	12" x 18" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	3,692.97	158.44
23 11 26 00-0170	EA	12" x 24" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Nipple	4,739.83	237.65
23 11 26 00-0171		Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flanges (23 11 26 00-0108)		
23 11 26 00-0172	EA	4" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flange	1,495.73	538.85
23 11 26 00-0173	EA	6" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flange	2,235.19	719.64
23 11 26 00-0174	EA	8" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flange	2,862.75	861.39
23 11 26 00-0175	EA	10" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flange	4,024.35	1,082.44
23 11 26 00-0176	EA	12" Fiberglass Reinforced Carrier Pipe With Coated Steel Secondary Containment Casing Flange	6,012.16	1,340.43
23 12		Facility Fuel Pumps (23 10)		
23 12 13		Facility Fuel-Oil Pumps (23 12)		
23 12 13 00-0001		Cast Iron Internal Gear Rotary Pump (23 12 13)		
		Note: Heavy duty type with relief valve, 1150 RPM drip-proof motor, common base plate. For viscosity to 20 centipoise; diesel oil, and light oil.		
23 12 13 00-0002		10 GPM 1" Discharge (23 12 13 00-0001)		
23 12 13 00-0003	EA	10 GPM Cast Iron Rotary Pump, 20 PSI 1/2 HP With 1" Discharge	1,460.72	297.72
23 12 13 00-0004	EA	10 GPM Cast Iron Rotary Pump, 40 PSI 3/4 HP With 1" Discharge	1,533.48	360.34
23 12 13 00-0005	EA	10 GPM Cast Iron Rotary Pump, 60 PSI 1 HP With 1" Discharge	1,679.50	428.11
23 12 13 00-0006		25 GPM 1-1/4" Discharge (23 12 13 00-0001)		
23 12 13 00-0007	EA	25 GPM Cast Iron Rotary Pump, 20 PSI 1 HP With 1-1/4" Discharge	1,575.36	297.72

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 12 Facility Fuel Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 12 13 00-0008 EA 25 GPM Cast Iron Rotary Pump, 40 PSI 1.5 HP With 1-1/4" Discharge	1,659.30	360.34
23 12 13 00-0009 EA 25 GPM Cast Iron Rotary Pump, 60 PSI 2 HP With 1-1/4" Discharge	1,743.05	428.11
23 12 13 00-0010 Pump, Fuel Oil, 2 Stage 3450 RPM 100 PSI (23 12 13)		
23 12 13 00-0011 EA 1/4 HP Pump Fuel Oil/Diesel	1,098.50	166.82
23 12 13 00-0012 EA 1/3 HP Pump Fuel Oil/Diesel	1,290.35	186.85
23 12 13 00-0013 EA 1/2 HP Pump Fuel Oil/Diesel	1,411.45	209.43
23 12 13 00-0014 EA 3/4 HP Pump Fuel Oil/Diesel	1,540.79	286.13
23 12 13 00-0015 EA 1 HP Pump Fuel Oil/Diesel	2,158.52	262.82
23 12 13 00-0016 EA 1-1/2 HP Pump Fuel Oil/Diesel	2,636.55	294.13
23 12 13 00-0017 EA 2 HP Pump Fuel Oil/Diesel	2,922.27	329.55
23 12 13 00-0018 EA 3 HP Pump Fuel Oil/Diesel	3,558.88	388.56
23 12 13 00-0019 EA 5 HP Pump Fuel Oil/Diesel	4,192.43	413.22
23 12 13 00-0020 EA 7.5 HP Pump Fuel Oil/Diesel	4,694.11	463.53
23 12 13 00-0021 EA 10 HP Pump Fuel Oil/Diesel	5,262.90	519.57
23 12 23 Facility Natural-Gas Pumps (23 12)		
23 12 23 00-0001 Natural Gas Booster Pump (23 12 23)		
23 12 23 00-0002 EA Natural Gas Booster Pump, 3/4" Outlet Size	1,195.83	154.00
23 12 23 00-0003 EA Natural Gas Booster Pump, 1" Outlet Size	1,420.98	171.96
23 12 23 00-0004 EA Natural Gas Booster Pump, 1-1/4" Outlet Size	1,596.45	179.66
23 12 23 00-0005 EA Natural Gas Booster Pump, 1-1/2" Outlet Size	1,815.58	187.36
23 12 23 00-0006 EA Natural Gas Booster Pump, 2" Outlet Size	2,058.74	192.49
23 13 Facility Fuel-Storage Tanks (23 10)		
23 13 13 Facility Underground Fuel-Oil, Storage Tanks (23 13)		
23 13 13 13 Double-Wall Steel, Underground Fuel-Oil, Storage Tanks (23 13 13)		
23 13 13 13-0001 Coated Underground Double Wall Storage Tanks (23 13 13 13)		
Note: Includes setting in place with hold down bars and manway and 4" NPT connections as follows: up to 1000 gallon, 4 each: all others 6 each. Excludes excavation, pad, plastic lining, pumps and piping.		
23 13 13 13-0002 EA 250 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	16,052.97	729.30
23 13 13 13-0003 EA 550 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	17,347.68	729.30
23 13 13 13-0004 EA 1,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	25,077.99	911.58
23 13 13 13-0005 EA 2,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	34,307.90	1,780.52
23 13 13 13-0006 EA 3,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	54,664.85	2,289.11
23 13 13 13-0007 EA 4,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	60,892.94	2,629.11
23 13 13 13-0008 EA 5,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	65,689.45	3,476.25
23 13 13 13-0009 EA 6,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	67,918.89	3,732.35
23 13 13 13-0010 EA 8,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	82,903.24	4,409.30
23 13 13 13-0011 EA 10,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	96,014.99	5,085.80
23 13 13 13-0012 EA 12,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	122,887.52	5,592.81
23 13 13 13-0013 EA 14,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	145,669.39	6,790.57
23 13 13 13-0014 EA 15,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	150,453.30	7,206.55
23 13 13 13-0015 EA 20,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	184,427.53	11,431.09
23 13 13 13-0016 EA 25,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	226,600.13	14,823.33
23 13 13 13-0017 EA 30,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	267,021.78	16,960.58
23 13 13 13-0018 EA 40,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	343,675.45	18,232.63
23 13 13 13-0019 EA 48,000 Gallon Underground Double Wall Steel Storage Tank, Coated, In Place With Hold Down Bars	466,005.71	18,700.17
23 13 13 23 Glass-Fiber-Reinforced-Plastic, Underground Fuel-Oil, Storage Tanks (23 13 13)		
23 13 13 23-0001 Underground Fiberglass Storage Tanks (23 13 13 23)		
23 13 13 23-0002 Single Wall Fiberglass Underground Storage Tanks (23 13 13 23-0001)		
Note: Includes setting in place with hold down bars, fittings, bumper pads, flow channels, monitoring fitting, tank bottom deflector gauge plates, manway, anchor straps and 4" NPT tank mounted fitting connections as follows: 550 gallon or 1,000 gallon, 4 each: all others 6 each. Excludes excavation and backfill.		
23 13 13 23-0003 EA 550 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	4,098.12	729.30
23 13 13 23-0004 EA 1,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	5,147.86	911.58
23 13 13 23-0005 EA 2,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	6,692.75	1,127.87
23 13 13 23-0006 EA 2,500 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	7,599.39	1,373.81
23 13 13 23-0007 EA 3,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	8,501.89	1,611.26
23 13 13 23-0008 EA 4,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	10,340.28	2,120.07
23 13 13 23-0009 EA 5,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	12,315.92	3,222.51
23 13 13 23-0010 EA 6,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	13,922.95	4,070.54
23 13 13 23-0011 EA 8,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	16,705.85	4,579.36
23 13 13 23-0012 EA 10,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	18,802.06	5,427.38
23 13 13 23-0013 EA 12,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	24,229.53	6,445.02
23 13 13 23-0014 EA 15,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	29,789.10	8,056.28
23 13 13 23-0015 EA 20,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	37,596.29	10,769.97
23 13 13 23-0016 EA 25,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	56,209.45	13,398.86
23 13 13 23-0017 EA 30,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	68,893.38	16,112.56
23 13 13 23-0018 EA 40,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	98,354.38	23,320.80
23 13 13 23-0019 EA 50,000 Gallon Single Wall Fiberglass Tank Including Fittings And Anchor Straps	140,081.84	29,681.03



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 13 23-0020		Double Wall Fiberglass Underground Storage Tanks (23 13 13 23-0001) Note: Includes setting in place with hold down bars, fittings, bumper pads, flow channels, monitoring fitting, tank bottom deflector gauge plates, manway, anchor straps and 4" NPT tank mounted fitting connections as follows: 550 gallon or 1,000 gallon, 4 each; all others 6 each. Excludes excavation and backfill.		
23 13 13 23-0021	EA	550 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	7,914.73	729.30
23 13 13 23-0022	EA	1,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	10,432.25	911.68
23 13 13 23-0023	EA	2,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	12,507.89	1,102.44
23 13 13 23-0024	EA	3,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	16,261.11	1,611.36
23 13 13 23-0025	EA	4,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	18,261.15	2,120.07
23 13 13 23-0026	EA	5,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	21,023.49	3,222.51
23 13 13 23-0027	EA	6,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	23,406.44	4,070.54
23 13 13 23-0028	EA	8,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	28,775.76	4,579.36
23 13 13 23-0029	EA	10,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	30,871.96	5,427.38
23 13 13 23-0030	EA	12,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	37,377.11	6,445.02
23 13 13 23-0031	EA	15,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	51,396.38	8,056.28
23 13 13 23-0032	EA	20,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	63,675.90	10,769.97
23 13 13 23-0033	EA	30,000 Gallon Double Wall Fiberglass Tank Including Fittings And Anchor Straps.....	98,421.54	16,112.56
23 13 13 23-0034		Underground Storage Tank Pump Enclosures (23 13 13 23) 23 13 13 23-0035 EA Secondary Containment Collar.....3,936.14 23 13 13 23-0036 EA Turbine Enclosure With Lid 4' Long x 42" Diameter.....3,936.14 23 13 13 23-0037 EA Fitting Kit For Turbine Enclosure 787.23 23 13 13 23-0038 EA Grommet Kits For Plumbing And Electrical.....1,574.46 23 13 13 23-0039 EA Turbine Electrical Coupling Kit.....1,968.07		
23 13 23		Facility Aboveground Fuel-Oil, Storage Tanks (23 13)		
23 13 23 13		Vertical, Steel, Aboveground Fuel-Oil, Storage Tanks (23 13 23)		
23 13 23 13-0001		Vertical Rectangular Double Wall Steel Fuel Day Tank (23 13 23 13) Note: Includes day tank with standard equipment, pump, pump control, level control, backup level control, level alarms, alarm outputs.		
23 13 23 13-0002	EA	10 Gallon Double Wall Steel Day Tank (Tramont TRX).....	1,170.95	133.76
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0003	EA	15 Gallon Double Wall Steel Day Tank (Tramont TRX).....	1,257.53	140.45
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0004	EA	25 Gallon Double Wall Steel Day Tank (Tramont TRX).....	1,365.11	150.48
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0005	EA	50 Gallon Double Wall Steel Day Tank (Tramont TRX).....	1,568.68	160.51
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0006	EA	60 Gallon Double Wall Steel Day Tank (Tramont TRX).....	1,749.56	167.20
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0007	EA	75 Gallon Double Wall Steel Day Tank (Tramont TRX).....	2,062.43	200.64
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0008	EA	100 Gallon Double Wall Steel Day Tank (Tramont TRX).....	2,776.46	234.08
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0009	EA	150 Gallon Double Wall Steel Day Tank (Tramont TRX).....	3,514.50	267.51
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0010	EA	200 Gallon Double Wall Steel Day Tank (Tramont TRX).....	4,509.67	300.95
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0011	EA	275 Gallon Double Wall Steel Day Tank (Tramont TRX).....	5,026.55	334.40
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0012	EA	300 Gallon Double Wall Steel Day Tank (Tramont TRX).....	5,751.75	401.28
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0013	EA	350 Gallon Double Wall Steel Day Tank (Tramont TRX).....	6,442.66	468.15
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0014	EA	400 Gallon Double Wall Steel Day Tank (Tramont TRX).....	7,154.13	535.04
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0015	EA	450 Gallon Double Wall Steel Day Tank (Tramont TRX).....	7,940.17	568.48
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0016	EA	500 Gallon Double Wall Steel Day Tank (Tramont TRX).....	8,731.34	601.91
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0017	EA	550 Gallon Double Wall Steel Day Tank (Tramont TRX).....	9,630.52	635.35
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0018	EA	600 Gallon Double Wall Steel Day Tank (Tramont TRX).....	10,416.56	668.79
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0019	EA	700 Gallon Double Wall Steel Day Tank (Tramont TRX).....	11,599.51	802.55
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0020	EA	800 Gallon Double Wall Steel Day Tank (Tramont TRX).....	12,511.55	869.43
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0021	EA	900 Gallon Double Wall Steel Day Tank (Tramont TRX).....	13,730.51	1,003.19
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0022	EA	1,000 Gallon Double Wall Steel Day Tank (Tramont TRX).....	14,954.60	1,136.95
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0023	EA	10 Gallon Double Wall Steel Day Tank (Tramont UTRX).....	1,421.24	133.76
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0024	EA	15 Gallon Double Wall Steel Day Tank (Tramont UTRX).....	1,509.53	140.45
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		
23 13 23 13-0025	EA	25 Gallon Double Wall Steel Day Tank (Tramont UTRX).....	1,617.11	150.48
		Note: Includes rust-inhibitor coated interior and gray painted exterior.		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 13 Facility Fuel-Storage Tanks**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 23 13-0026	EA	50 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,818.97	160.51
23 13 23 13-0027	EA	60 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	1,999.85	167.20
23 13 23 13-0028	EA	75 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	2,314.44	200.64
23 13 23 13-0029	EA	100 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	3,052.47	234.08
23 13 23 13-0030	EA	150 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	3,790.51	267.51
23 13 23 13-0031	EA	200 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	4,785.68	300.95
23 13 23 13-0032	EA	275 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	5,302.56	334.40
23 13 23 13-0033	EA	300 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	6,027.75	401.28
23 13 23 13-0034	EA	350 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	6,718.66	468.15
23 13 23 13-0035	EA	400 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	7,430.14	535.04
23 13 23 13-0036	EA	450 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	8,216.18	568.48
23 13 23 13-0037	EA	500 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	9,007.35	601.91
23 13 23 13-0038	EA	550 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	9,908.24	635.35
23 13 23 13-0039	EA	600 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	10,694.28	668.79
23 13 23 13-0040	EA	700 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	11,875.51	802.55
23 13 23 13-0041	EA	800 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	12,787.55	869.43
23 13 23 13-0042	EA	900 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	14,006.51	1,003.19
23 13 23 13-0043	EA	1,000 Gallon Double Wall Steel Day Tank (Tramont UTRX) Note: Includes rust-inhibitor coated interior and gray painted exterior.	15,230.61	1,136.95
23 13 23 13-0044	EA	10 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	2,369.26	133.76
23 13 23 13-0045	EA	15 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	2,447.27	140.45
23 13 23 13-0046	EA	25 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	2,517.13	150.48
23 13 23 13-0047	EA	50 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	2,787.56	160.51
23 13 23 13-0048	EA	60 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	2,889.58	167.20
23 13 23 13-0049	EA	75 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,192.17	200.64
23 13 23 13-0050	EA	100 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,842.77	234.08
23 13 23 13-0051	EA	150 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	4,851.67	267.51
23 13 23 13-0052	EA	200 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	5,455.97	300.95
23 13 23 13-0053	EA	275 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	7,135.17	334.40
23 13 23 13-0054	EA	300 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	8,062.65	401.28
23 13 23 13-0055	EA	350 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	8,619.85	468.15
23 13 23 13-0056	EA	400 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	9,379.32	535.04
23 13 23 13-0057	EA	450 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	10,129.36	568.48
23 13 23 13-0058	EA	500 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	11,119.39	601.91
23 13 23 13-0059	EA	550 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	11,529.99	635.35
23 13 23 13-0060	EA	600 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	11,897.73	668.79
23 13 23 13-0061	EA	700 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	13,606.98	802.55
23 13 23 13-0062	EA	800 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	15,268.17	869.43
23 13 23 13-0063	EA	900 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	17,080.29	1,003.19
23 13 23 13-0064	EA	1,000 Gallon Double Wall Steel Day Tank With Pump (Tramont TRE) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	18,921.54	1,136.95
23 13 23 13-0065	EA	10 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRX) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,500.71	133.76
23 13 23 13-0066	EA	15 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRX) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,578.72	140.45
23 13 23 13-0067	EA	25 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRX) Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,648.58	150.48



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 23	13-0068	EA	50 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	3,919.01	160.51
23 13 23	13-0069	EA	60 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	4,021.03	167.20
23 13 23	13-0070	EA	75 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	4,323.62	200.64
23 13 23	13-0071	EA	100 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	4,974.22	234.08
23 13 23	13-0072	EA	150 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	5,983.12	267.51
23 13 23	13-0073	EA	200 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	6,662.86	300.95
23 13 23	13-0074	EA	275 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	7,872.32	334.40
23 13 23	13-0075	EA	300 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	8,799.81	401.28
23 13 23	13-0076	EA	350 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	9,358.72	468.15
23 13 23	13-0077	EA	400 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	10,116.48	535.04
23 13 23	13-0078	EA	450 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	10,868.23	568.48
23 13 23	13-0079	EA	500 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	11,856.55	601.91
23 13 23	13-0080	EA	550 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	12,267.14	635.35
23 13 23	13-0081	EA	600 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	12,634.89	668.79
23 13 23	13-0082	EA	700 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	14,344.14	802.55
23 13 23	13-0083	EA	800 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	16,007.05	869.43
23 13 23	13-0084	EA	900 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	17,817.45	1,003.19
23 13 23	13-0085	EA	1,000 Gallon Double Wall Steel Day Tank With Pump (Tramont UTRE)..... Note: Includes pump, motor control float switch, rust-inhibitor coated interior and gray painted exterior.	19,658.69	1,136.95
23 13 23	13-0086	EA	10 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,133.29	133.76
23 13 23	13-0087	EA	15 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,219.87	140.45
23 13 23	13-0088	EA	25 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,291.45	150.48
23 13 23	13-0089	EA	50 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,570.45	160.51
23 13 23	13-0090	EA	60 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,720.47	167.20
23 13 23	13-0091	EA	75 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	4,995.64	200.64
23 13 23	13-0092	EA	100 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,671.95	234.08
23 13 23	13-0093	EA	150 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	6,728.85	267.51
23 13 23	13-0094	EA	200 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	7,355.44	300.95
23 13 23	13-0095	EA	275 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	9,099.78	334.40
23 13 23	13-0096	EA	300 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	10,075.26	401.28
23 13 23	13-0097	EA	350 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	10,579.31	468.15
23 13 23	13-0098	EA	400 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	11,441.65	535.04
23 13 23	13-0099	EA	450 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	12,349.40	568.48
23 13 23	13-0100	EA	500 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	13,262.29	601.91
23 13 23	13-0101	EA	550 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	13,722.60	635.35

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 13 Facility Fuel-Storage Tanks**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 23 13-0102	EA	600 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	14,064.63	668.79
23 13 23 13-0103	EA	700 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	15,851.02	802.55
23 13 23 13-0104	EA	800 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	17,592.79	869.43
23 13 23 13-0105	EA	900 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	19,485.48	1,003.19
23 13 23 13-0106	EA	1,000 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont TRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	21,403.87	1,136.95
23 13 23 13-0107	EA	10 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,264.75	133.76
23 13 23 13-0108	EA	15 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,351.33	140.45
23 13 23 13-0109	EA	25 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,422.90	150.48
23 13 23 13-0110	EA	50 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,701.90	160.51
23 13 23 13-0111	EA	60 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	5,851.92	167.20
23 13 23 13-0112	EA	75 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	6,123.66	200.64
23 13 23 13-0113	EA	100 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	6,803.40	234.08
23 13 23 13-0114	EA	150 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	7,860.30	267.51
23 13 23 13-0115	EA	200 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	8,486.89	300.95
23 13 23 13-0116	EA	275 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	9,836.93	334.40
23 13 23 13-0117	EA	300 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	10,812.42	401.28
23 13 23 13-0118	EA	350 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	11,487.90	468.15
23 13 23 13-0119	EA	400 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	12,178.80	535.04
23 13 23 13-0120	EA	450 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	13,086.56	568.48
23 13 23 13-0121	EA	500 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	13,999.45	601.91
23 13 23 13-0122	EA	550 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	14,459.76	635.35
23 13 23 13-0123	EA	600 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	14,803.51	668.79
23 13 23 13-0124	EA	700 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	16,588.18	802.55
23 13 23 13-0125	EA	800 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	18,329.95	869.43
23 13 23 13-0126	EA	900 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	20,222.64	1,003.19
23 13 23 13-0127	EA	1,000 Gallon Double Wall Steel Day Tank With Pump And Control Module (Tramont UTRS)..... Note: Includes pump, motor control float switch, electronic control module, rust-inhibitor coated interior and gray painted exterior.	22,141.03	1,136.95
23 13 23 13-0128	EA	150% Containment Double Wall Open Top Basin For 10 Gallon Tank.....	1,159.77	133.76
23 13 23 13-0129	EA	150% Containment Double Wall Open Top Basin For 15 Gallon Tank.....	1,256.91	140.45
23 13 23 13-0130	EA	150% Containment Double Wall Open Top Basin For 25 Gallon Tank.....	1,364.15	150.48
23 13 23 13-0131	EA	150% Containment Double Wall Open Top Basin For 50 Gallon Tank.....	1,559.63	160.51
23 13 23 13-0132	EA	150% Containment Double Wall Open Top Basin For 60 Gallon Tank.....	2,075.41	167.20
23 13 23 13-0133	EA	150% Containment Double Wall Open Top Basin For 75 Gallon Tank.....	2,131.14	200.64
23 13 23 13-0134	EA	150% Containment Double Wall Open Top Basin For 100 Gallon Tank.....	2,680.19	234.08



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 23	13-0135	EA	150% Containment Double Wall Open Top Basin For 150 Gallon Tank.....	3,317.49	267.51
23 13 23	13-0136	EA	150% Containment Double Wall Open Top Basin For 200 Gallon Tank.....	4,359.84	300.95
23 13 23	13-0137	EA	150% Containment Double Wall Open Top Basin For 275 Gallon Tank.....	5,479.13	334.40
23 13 23	13-0138	EA	150% Containment Double Wall Open Top Basin For 300 Gallon Tank.....	6,577.23	401.28
23 13 23	13-0139	EA	150% Containment Double Wall Open Top Basin For 350 Gallon Tank.....	7,066.60	468.15
23 13 23	13-0140	EA	150% Containment Double Wall Open Top Basin For 400 Gallon Tank.....	7,558.23	535.04
23 13 23	13-0141	EA	150% Containment Double Wall Open Top Basin For 450 Gallon Tank.....	8,299.63	568.48
23 13 23	13-0142	EA	150% Containment Double Wall Open Top Basin For 500 Gallon Tank.....	9,043.28	601.91
23 13 23	13-0143	EA	150% Containment Double Wall Open Top Basin For 550 Gallon Tank.....	9,689.65	635.35
23 13 23	13-0144	EA	150% Containment Double Wall Open Top Basin For 600 Gallon Tank.....	10,342.78	668.79
23 13 23	13-0145	EA	150% Containment Double Wall Open Top Basin For 700 Gallon Tank.....	11,701.68	802.55
23 13 23	13-0146	EA	150% Containment Double Wall Open Top Basin For 800 Gallon Tank.....	12,989.84	869.43
23 13 23	13-0147	EA	150% Containment Double Wall Open Top Basin For 900 Gallon Tank.....	14,425.70	1,003.19
23 13 23	13-0148	EA	150% Containment Double Wall Open Top Basin For 1,000 Gallon Tank.....	15,811.76	1,136.95
23 13 23	13-0149	EA	200% Containment Double Wall Open Top Basin For 10 Gallon Tank.....	1,222.97	140.45
23 13 23	13-0150	EA	200% Containment Double Wall Open Top Basin For 15 Gallon Tank.....	1,380.46	150.48
23 13 23	13-0151	EA	200% Containment Double Wall Open Top Basin For 25 Gallon Tank.....	1,442.71	160.51
23 13 23	13-0152	EA	200% Containment Double Wall Open Top Basin For 50 Gallon Tank.....	1,642.57	167.20
23 13 23	13-0153	EA	200% Containment Double Wall Open Top Basin For 60 Gallon Tank.....	2,230.96	200.64
23 13 23	13-0154	EA	200% Containment Double Wall Open Top Basin For 75 Gallon Tank.....	2,286.69	234.08
23 13 23	13-0155	EA	200% Containment Double Wall Open Top Basin For 100 Gallon Tank.....	2,863.15	267.51
23 13 23	13-0156	EA	200% Containment Double Wall Open Top Basin For 150 Gallon Tank.....	3,532.75	300.95
23 13 23	13-0157	EA	200% Containment Double Wall Open Top Basin For 200 Gallon Tank.....	4,629.92	334.40
23 13 23	13-0158	EA	200% Containment Double Wall Open Top Basin For 275 Gallon Tank.....	5,808.31	367.84
23 13 23	13-0159	EA	200% Containment Double Wall Open Top Basin For 300 Gallon Tank.....	6,961.20	434.71
23 13 23	13-0160	EA	200% Containment Double Wall Open Top Basin For 350 Gallon Tank.....	7,471.57	501.59
23 13 23	13-0161	EA	200% Containment Double Wall Open Top Basin For 400 Gallon Tank.....	7,984.33	568.48
23 13 23	13-0162	EA	200% Containment Double Wall Open Top Basin For 450 Gallon Tank.....	8,763.81	601.91
23 13 23	13-0163	EA	200% Containment Double Wall Open Top Basin For 500 Gallon Tank.....	9,545.68	635.35
23 13 23	13-0164	EA	200% Containment Double Wall Open Top Basin For 550 Gallon Tank.....	10,224.87	668.79
23 13 23	13-0165	EA	200% Containment Double Wall Open Top Basin For 600 Gallon Tank.....	10,966.91	735.68
23 13 23	13-0166	EA	200% Containment Double Wall Open Top Basin For 700 Gallon Tank.....	12,388.92	869.43
23 13 23	13-0167	EA	200% Containment Double Wall Open Top Basin For 800 Gallon Tank.....	13,853.94	1,003.19
23 13 23	13-0168	EA	200% Containment Double Wall Open Top Basin For 900 Gallon Tank.....	15,357.17	1,136.95
23 13 23	13-0169	EA	200% Containment Double Wall Open Top Basin For 1,000 Gallon Tank.....	16,807.85	1,270.70
23 13 23	13-0170	EA	150% Containment Double Wall Sealed Top Basin For 10 Gallon Tank.....	1,338.54	133.76
23 13 23	13-0171	EA	150% Containment Double Wall Sealed Top Basin For 15 Gallon Tank.....	1,458.31	140.45
23 13 23	13-0172	EA	150% Containment Double Wall Sealed Top Basin For 25 Gallon Tank.....	1,579.12	150.48
23 13 23	13-0173	EA	150% Containment Double Wall Sealed Top Basin For 50 Gallon Tank.....	1,819.86	160.51
23 13 23	13-0174	EA	150% Containment Double Wall Sealed Top Basin For 60 Gallon Tank.....	2,432.95	167.20
23 13 23	13-0175	EA	150% Containment Double Wall Sealed Top Basin For 75 Gallon Tank.....	2,488.68	200.64
23 13 23	13-0176	EA	150% Containment Double Wall Sealed Top Basin For 100 Gallon Tank.....	3,119.19	234.08
23 13 23	13-0177	EA	150% Containment Double Wall Sealed Top Basin For 150 Gallon Tank.....	3,862.85	267.51
23 13 23	13-0178	EA	150% Containment Double Wall Sealed Top Basin For 200 Gallon Tank.....	5,090.14	300.95
23 13 23	13-0179	EA	150% Containment Double Wall Sealed Top Basin For 275 Gallon Tank.....	6,465.76	334.40
23 13 23	13-0180	EA	150% Containment Double Wall Sealed Top Basin For 300 Gallon Tank.....	7,765.25	401.28
23 13 23	13-0181	EA	150% Containment Double Wall Sealed Top Basin For 350 Gallon Tank.....	8,324.78	468.15
23 13 23	13-0182	EA	150% Containment Double Wall Sealed Top Basin For 400 Gallon Tank.....	8,888.82	535.04
23 13 23	13-0183	EA	150% Containment Double Wall Sealed Top Basin For 450 Gallon Tank.....	9,772.78	568.48
23 13 23	13-0184	EA	150% Containment Double Wall Sealed Top Basin For 500 Gallon Tank.....	10,658.99	601.91
23 13 23	13-0185	EA	150% Containment Double Wall Sealed Top Basin For 550 Gallon Tank.....	11,411.70	635.35
23 13 23	13-0186	EA	150% Containment Double Wall Sealed Top Basin For 600 Gallon Tank.....	12,182.52	668.79
23 13 23	13-0187	EA	150% Containment Double Wall Sealed Top Basin For 700 Gallon Tank.....	13,779.03	802.55
23 13 23	13-0188	EA	150% Containment Double Wall Sealed Top Basin For 800 Gallon Tank.....	15,307.05	869.43
23 13 23	13-0189	EA	150% Containment Double Wall Sealed Top Basin For 900 Gallon Tank.....	16,980.51	1,003.19
23 13 23	13-0190	EA	150% Containment Double Wall Sealed Top Basin For 1,000 Gallon Tank.....	18,604.18	1,136.95
23 13 23	13-0191	EA	200% Containment Double Wall Sealed Top Basin For 10 Gallon Tank.....	1,411.67	140.45
23 13 23	13-0192	EA	200% Containment Double Wall Sealed Top Basin For 15 Gallon Tank.....	1,543.04	150.48
23 13 23	13-0193	EA	200% Containment Double Wall Sealed Top Basin For 25 Gallon Tank.....	1,669.63	160.51
23 13 23	13-0194	EA	200% Containment Double Wall Sealed Top Basin For 50 Gallon Tank.....	1,917.26	167.20
23 13 23	13-0195	EA	200% Containment Double Wall Sealed Top Basin For 60 Gallon Tank.....	2,608.37	200.64
23 13 23	13-0196	EA	200% Containment Double Wall Sealed Top Basin For 75 Gallon Tank.....	2,664.10	234.08
23 13 23	13-0197	EA	200% Containment Double Wall Sealed Top Basin For 100 Gallon Tank.....	3,326.54	267.51
23 13 23	13-0198	EA	200% Containment Double Wall Sealed Top Basin For 150 Gallon Tank.....	4,108.41	300.95
23 13 23	13-0199	EA	200% Containment Double Wall Sealed Top Basin For 200 Gallon Tank.....	5,400.79	334.40
23 13 23	13-0200	EA	200% Containment Double Wall Sealed Top Basin For 275 Gallon Tank.....	6,849.74	367.84
23 13 23	13-0201	EA	200% Containment Double Wall Sealed Top Basin For 300 Gallon Tank.....	8,215.23	434.71
23 13 23	13-0202	EA	200% Containment Double Wall Sealed Top Basin For 350 Gallon Tank.....	8,799.65	501.59
23 13 23	13-0203	EA	200% Containment Double Wall Sealed Top Basin For 400 Gallon Tank.....	9,388.84	568.48
23 13 23	13-0204	EA	200% Containment Double Wall Sealed Top Basin For 450 Gallon Tank.....	10,318.80	601.91
23 13 23	13-0205	EA	200% Containment Double Wall Sealed Top Basin For 500 Gallon Tank.....	11,251.16	635.35
23 13 23	13-0206	EA	200% Containment Double Wall Sealed Top Basin For 550 Gallon Tank.....	12,042.59	668.79
23 13 23	13-0207	EA	200% Containment Double Wall Sealed Top Basin For 600 Gallon Tank.....	12,908.86	735.68
23 13 23	13-0208	EA	200% Containment Double Wall Sealed Top Basin For 700 Gallon Tank.....	14,581.67	869.43
23 13 23	13-0209	EA	200% Containment Double Wall Sealed Top Basin For 800 Gallon Tank.....	16,299.88	1,003.19
23 13 23	13-0210	EA	200% Containment Double Wall Sealed Top Basin For 900 Gallon Tank.....	18,053.92	1,136.95
23 13 23	13-0211	EA	200% Containment Double Wall Sealed Top Basin For 1,000 Gallon Tank.....	19,755.40	1,270.70

23 13 23 16 Horizontal, Steel, Aboveground Fuel-Oil, Storage Tanks (23 13 23)

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 13 Facility Fuel-Storage Tanks**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 13 23 16-0001**Single Wall Aboveground Storage Tanks** (23 13 23 16)

Note: Includes cradles, supports, coating, fittings, and 4" NPT connections as follows: up to 1000 gallon, 4 each: all others 6 each. Excludes pumps, piping, pad, foundation excavation and backfill.

23 13 23 16-0002	EA	300 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	4,869.19	726.98
23 13 23 16-0003	EA	550 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	5,853.24	880.02
23 13 23 16-0004	EA	1,000 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	7,924.38	1,234.12
23 13 23 16-0005	EA	1,500 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	10,246.73	1,542.65
23 13 23 16-0006	EA	2,000 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	12,306.37	2,083.77
23 13 23 16-0007	EA	3,000 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	18,599.72	2,145.06
23 13 23 16-0008	EA	5,000 Gallon, Steel Storage Tank, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	27,061.09	2,652.07
23 13 23 16-0009	EA	8,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	37,187.56	3,038.77
23 13 23 16-0010	EA	10,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	44,335.93	3,315.01
23 13 23 16-0011	EA	12,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	51,474.66	3,646.52
23 13 23 16-0012	EA	15,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	56,982.13	4,051.65
23 13 23 16-0013	EA	20,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	71,169.47	5,209.27
23 13 23 16-0014	EA	30,000 Gallon, Steel Storage Tank, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	97,264.90	6,077.55

23 13 23 16-0015**Double Wall Aboveground Storage Tanks** (23 13 23 16)

Note: Includes cradles, supports, coating, fittings, and 4" NPT connections as follows: up to 1000 gallon, 4 each: all others 6 each. Excludes pumps, piping, pad, foundation excavation and backfill.

23 13 23 16-0016	EA	300 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	7,740.24	907.11
23 13 23 16-0017	EA	550 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	9,300.48	1,097.71
23 13 23 16-0018	EA	1,000 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	12,414.34	1,542.65
23 13 23 16-0019	EA	1,500 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	16,285.70	1,928.32
23 13 23 16-0020	EA	2,000 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	20,947.48	2,604.69
23 13 23 16-0021	EA	3,000 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	29,876.01	2,681.24
23 13 23 16-0022	EA	5,000 Gallon, Steel Storage Tank, Double Wall, With 3/16" Shell, Aboveground With Supports, Coating And Fittings.....	43,728.17	3,303.01
23 13 23 16-0023	EA	8,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	60,473.43	3,798.50
23 13 23 16-0024	EA	10,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	72,280.30	4,143.81
23 13 23 16-0025	EA	12,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	84,038.34	4,558.10
23 13 23 16-0026	EA	15,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	93,021.02	5,064.66
23 13 23 16-0027	EA	20,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	116,093.08	6,511.62
23 13 23 16-0028	EA	30,000 Gallon, Steel Storage Tank, Double Wall, With 1/4" Shell, Aboveground With Supports, Coating And Fittings.....	159,277.74	7,596.87

23 13 23 16-0029**Horizontal Rectangular Double Wall Aboveground Fuel Day Tanks** (23 13 23 16)

Note: Includes solenoid valve. Excludes piping and concrete pad.

23 13 23 16-0030	EA	550 Gallon, Double Wall, Aboveground Horizontal Fuel Storage Tank.....	15,097.98	1,097.71
23 13 23 16-0031	EA	750 Gallon, Double Wall, Aboveground Horizontal Fuel Storage Tank.....	15,979.95	1,272.68
23 13 23 16-0032	EA	1,000 Gallon, Double Wall, Aboveground Horizontal Fuel Storage Tank.....	17,953.90	1,542.65
23 13 23 16-0033	EA	1,500 Gallon, Double Wall, Aboveground Horizontal Fuel Storage Tank.....	21,479.59	1,928.32
23 13 23 16-0034	EA	2,000 Gallon, Double Wall, Aboveground Horizontal Fuel Storage Tank.....	27,509.11	2,604.69

Note: Includes 2" solenoid valve.

23 13 23 19**Containment-Dike, Steel, Aboveground Fuel-Oil, Storage Tanks** (23 13 23)**23 13 23 19-0001****Secondary Containment For Above Ground Tanks** (23 13 23 19)

23 13 23 19-0002	EA	Steel Dike For 550 Gallon Tank, Uncoated.....	6,615.94	
23 13 23 19-0003	EA	Steel Dike For 1,000 Gallon Tank, Uncoated.....	7,991.79	
23 13 23 19-0004	EA	Steel Dike For 2,000 Gallon Tank, Uncoated.....	17,526.13	
23 13 23 19-0005	EA	Steel Dike For 3,000 Gallon Tank, Uncoated.....	19,165.32	
23 13 23 19-0006	EA	Steel Dike For 5,000 Gallon Tank, Uncoated.....	27,269.27	
23 13 23 19-0007	EA	Steel Dike For 6,000 Gallon Tank, Uncoated.....	30,552.30	
23 13 23 19-0008	EA	Steel Dike For 8,000 Gallon Tank, Uncoated.....	40,349.96	
23 13 23 19-0009	EA	Steel Dike For 10,000 Gallon Tank, Uncoated.....	47,338.37	
23 13 23 19-0010	EA	Steel Dike For 12,000 Gallon Tank, Uncoated.....	53,799.99	
23 13 23 19-0011	EA	Steel Dike For 15,000 Gallon Tank, Uncoated.....	65,501.74	
23 13 23 19-0012	EA	Steel Dike For 20,000 Gallon Tank, Uncoated.....	83,878.74	

23 13 23 26**Concrete-Vaulted, Steel, Aboveground Fuel-Oil, Storage Tanks** (23 13 23)**23 13 23 26-0001****Aboveground Concrete Vaulted Storage Tanks** (23 13 23 26)

Note: Includes setting in place with stand, NPT openings for an emergency vent, regular vent, gauge, fill with an internal 5 gallon minimum overfill containment, supply and return and leak detection. All tanks that are 2000 gallon and larger shall have a ladder for access. Excludes excavation, pad, pumps and piping.

23 13 23 26-0002	EA	500 Gallon Concrete Vaulted Storage Tank.....	36,461.91	1,577.22
		For Low Profile Tanks, Add.....	13,704.46	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 23 26-0003 EA 1,000 Gallon Concrete Vaulted Storage Tank For Low Profile Tanks, Add	46,008.05 17,409.44	1,780.52
23 13 23 26-0004 EA 2,000 Gallon Concrete Vaulted Storage Tank For Low Profile Tanks, Add	82,063.29 31,642.02	2,120.07
23 13 23 26-0005 EA 4,000 Gallon Concrete Vaulted Storage Tank	129,471.43	4,663.14
23 13 23 26-0006 EA 5,000 Gallon Concrete Vaulted Storage Tank	148,032.25	5,092.92
23 13 23 26-0007 EA 6,000 Gallon Concrete Vaulted Storage Tank	166,681.99	5,499.98
23 13 23 26-0008 EA 8,000 Gallon Concrete Vaulted Storage Tank	185,309.75	5,968.20
23 13 23 26-0009 EA 10,000 Gallon Concrete Vaulted Storage Tank	203,930.25	6,352.87

23 13 33 Facility Fuel-Oil, Storage Tank Accessories (23 13)

23 13 33 00-0001 EPA Requirements (23 13 33)		
23 13 33 00-0002 EA Fill Pipe Spill Containment Manhole (5 Gallon)	2,341.36	
23 13 33 00-0003 EA Over-Fill Prevention Valve	1,420.20	
23 13 33 00-0004 EA Tank Manway With Cover, Fiberglass	4,626.15	
23 13 33 00-0005 EA Tank Manway With Cover, Steel	6,071.94	
23 13 33 00-0006 EA Vent Fill Alarm (Whistle Vent)	217.39	
23 13 33 00-0007 EA Reservoir Sensor, Liquid Level	708.60	
23 13 33 00-0008 EA Manhole Spill Containment	2,609.92	260.25
23 13 33 00-0009 EA Fill Adapter, 4"	456.46	173.53
23 13 33 00-0010 EA Fill Cap, 4"	322.79	65.06
23 13 33 00-0011 EA 2" Vent Cap	184.56	43.41
23 13 33 00-0012 EA 4" x 2" Extractor Fitting	803.62	65.06
23 13 33 00-0013 EA Float Vent Valve	400.49	130.13
23 13 33 00-0014 EA Vapor Hose Adapter	716.10	86.72
23 13 33 00-0015 EA Dust Cap	287.30	47.37
23 13 33 00-0016 EA 1" Double Poppet Foot Valve	462.10	74.33
23 13 33 00-0017 EA 10' Wood Gage Stick	44.83	
23 13 33 00-0018 EA 1-1/4" Tank Filled Breather, NPT	293.55	
23 13 33 00-0019 EA 1-1/2" Tank Filled Breather, Bayonet	412.35	
23 13 33 00-0020 EA 2" Cast Iron Combination Fill Cap And Vent	92.00	
23 13 33 00-0021 EA 3" Cast Iron Combination Fill Cap And Vent	127.02	
23 13 33 00-0022 EA 4" Cast Iron Combination Fill Cap And Vent	204.92	
23 13 33 00-0023 EA Pressure And Vacuum Control Vent	1,979.28	
23 13 33 00-0024 EA 1/4 HP Fuel/Diesel Pump Set	1,877.12	
23 13 33 00-0025 EA 1/3 HP Fuel/Diesel Pump Set	2,224.19	
23 13 33 00-0026 EA 1/2 HP Fuel/Diesel Pump Set	2,422.18	
23 13 33 00-0027 EA 3/4 HP Fuel/Diesel Pump Set	2,653.49	
23 13 33 00-0028 EA 1 HP Fuel/Diesel Pump Set	3,822.31	
23 13 33 00-0029 EA 1-1/2 HP Fuel/Diesel Pump Set	4,729.96	
23 13 33 00-0030 EA 2 HP Fuel/Diesel Pump Set	5,235.22	
23 13 33 00-0031 EA 3 HP Fuel/Diesel Pump Set	6,446.51	
23 13 33 00-0032 EA 5 HP Fuel/Diesel Pump Set	7,639.18	
23 13 33 00-0033 EA 7.5 HP Fuel/Diesel Pump Set	8,550.93	
23 13 33 00-0034 EA 10 HP Fuel/Diesel Pump Set	9,881.40	

23 13 33 00-0035 Tank Bulkhead Fittings (23 13 33)

23 13 33 00-0036 Tank Bulkhead Fittings (23 13 33 00-0035)

23 13 33 00-0037 Polyvinyl Chloride (PVC) Tank Bulkhead Fittings, Socket x Threaded Connection (23 13 33 00-0036)

23 13 33 00-0038 EA 1/2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread	62.88
23 13 33 00-0039 EA 3/4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread	70.46
23 13 33 00-0040 EA 1" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread	77.52
23 13 33 00-0041 EA 1-1/4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread	95.81
23 13 33 00-0042 EA 1-1/2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread	98.03
23 13 33 00-0043 EA 2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread	133.74
23 13 33 00-0044 EA 3" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread	222.47
23 13 33 00-0045 EA 4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Socket x Thread	405.38

23 13 33 00-0046 Polyvinyl Chloride (PVC) Tank Bulkhead Fittings, Thread x Threaded Connection (23 13 33 00-0036)

23 13 33 00-0047 EA 1/2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread	75.54
23 13 33 00-0048 EA 3/4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread	83.07
23 13 33 00-0049 EA 1" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread	90.64
23 13 33 00-0050 EA 1-1/4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread	116.18
23 13 33 00-0051 EA 1-1/2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread	123.74
23 13 33 00-0052 EA 2" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread	157.04
23 13 33 00-0053 EA 3" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread	253.53
23 13 33 00-0054 EA 4" Polyvinyl Chloride (PVC) Bulkhead Fitting, Thread x Thread	449.51

23 13 33 00-0055 Chlorinated Polyvinyl Chloride (CPVC) Tank Bulkhead Fittings, Socket x Threaded Connection (23 13 33 00-0036)

23 13 33 00-0056 EA 1/2" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread	78.42
23 13 33 00-0057 EA 3/4" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread	91.35

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 10 Facility Fuel Systems****23 13 Facility Fuel-Storage Tanks**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 13 33 00-0058	EA	1" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	103.75	
23 13 33 00-0059	EA	1-1/2" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	136.35	
23 13 33 00-0060	EA	2" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	183.22	
23 13 33 00-0061	EA	3" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	295.76	
23 13 33 00-0062	EA	4" Chlorinated Polyvinyl Chloride (CPVC) Bulkhead Fitting, Socket x Thread.....	475.74	
23 13 33 00-0063		Polypropylene Tank Bulkhead Fitting Thread x Threaded Connection (23 13 33 00-0036)		
23 13 33 00-0064	EA	1/2" Polypropylene Bulkhead Fitting, Thread x Thread.....	94.47	
23 13 33 00-0065	EA	3/4" Polypropylene Bulkhead Fitting, Thread x Thread.....	112.69	
23 13 33 00-0066	EA	1" Polypropylene Bulkhead Fitting, Thread x Thread.....	141.09	
23 13 33 00-0067	EA	1-1/4" Polypropylene Bulkhead Fitting, Thread x Thread.....	174.40	
23 13 33 00-0068	EA	1-1/2" Polypropylene Bulkhead Fitting, Thread x Thread.....	176.62	
23 13 33 00-0069	EA	2" Polypropylene Bulkhead Fitting, Thread x Thread.....	260.38	
23 13 33 00-0070	EA	3" Polypropylene Bulkhead Fitting, Thread x Thread.....	482.06	
23 13 33 00-0071	EA	4" Polypropylene Bulkhead Fitting, Thread x Thread.....	878.49	
23 13 33 00-0072		Polyethylene Tank Bulkhead Fittings Thread x Threaded Connection (23 13 33 00-0036)		
23 13 33 00-0073	EA	3/4" Polyethylene Bulkhead Fitting, Thread x Thread.....	79.67	
23 13 33 00-0074	EA	1" Polyethylene Bulkhead Fitting, Thread x Thread.....	106.01	
23 13 33 00-0075	EA	1-1/4" Polyethylene Bulkhead Fitting, Thread x Thread.....	108.25	
23 13 33 00-0076	EA	1-1/2" Polyethylene Bulkhead Fitting, Thread x Thread.....	110.47	
23 13 33 00-0077	EA	2" Polyethylene Bulkhead Fitting, Thread x Thread.....	160.90	
23 13 33 00-0078	EA	3" Polyethylene Bulkhead Fitting, Thread x Thread.....	207.09	
23 13 33 00-0079		TFE Teflon Tank Bulkhead Fittings, Thread x Threaded Connection (23 13 33 00-0036)		
23 13 33 00-0080	EA	1/8" TFE Teflon Bulkhead Fitting, Thread x Thread.....	402.07	
23 13 33 00-0081	EA	1/4" TFE Teflon Bulkhead Fitting, Thread x Thread.....	459.75	
23 13 33 00-0082	EA	3/8" TFE Teflon Bulkhead Fitting, Thread x Thread.....	567.53	
23 13 33 00-0083	EA	1/2" TFE Teflon Bulkhead Fitting, Thread x Thread.....	655.84	
23 13 33 00-0084	EA	3/4" TFE Teflon Bulkhead Fitting, Thread x Thread.....	756.36	
23 13 33 00-0085	EA	1" TFE Teflon Bulkhead Fitting, Thread x Thread.....	955.48	
23 13 33 00-0086	EA	1-1/2" TFE Teflon Bulkhead Fitting, Thread x Thread.....	1,243.46	
23 13 33 00-0087	EA	2" TFE Teflon Bulkhead Fitting, Thread x Thread.....	1,374.48	
23 13 33 00-0088		Self-Aligning Bulkhead Fittings (23 13 33 00-0035)		
23 13 33 00-0089	EA	3/4" Self-Aligning Polyvinyl Chloride (PVC) Bulkhead Fitting.....	407.32	
23 13 33 00-0090	EA	1" Self-Aligning Polyvinyl Chloride (PVC) Bulkhead Fitting.....	406.30	
23 13 33 00-0091	EA	1-1/2" Self-Aligning Polyvinyl Chloride (PVC) Bulkhead Fitting.....	598.14	
23 13 33 00-0092	EA	2" Self-Aligning Polyvinyl Chloride (PVC) Bulkhead Fitting.....	609.47	
23 13 33 00-0093	EA	3" Self-Aligning Polyvinyl Chloride (PVC) Bulkhead Fitting.....	828.61	

23 20 HVAC Piping and Pumps (23)

Note: The demolition price for only the length of pipe (LF) shall be used for lengths (LF) of pipe removal which exclude the fittings, valves, and insulation. The demolition price for individual fittings, valves, and insulation shall not be used in conjunction with pipe (LF) demolition tasks.

23 21 Hydronic Piping and Pumps (23 20)**23 21 13 Hydronic Piping (23 21)**

Note: The demolition price for only the length of pipe (LF) shall be used for lengths (LF) of pipe removal which exclude the fittings, valves, and insulation. The demolition price for individual fittings, valves, and insulation shall not be used in conjunction with pipe (LF) demolition tasks.

23 21 13 23 Aboveground Hydronic Piping (23 21 13)**23 21 13 23-0001 Threaded Black Steel Pipe (23 21 13 23)****23 21 13 23-0002 Threaded Black Steel Pipe Assemblies (23 21 13 23-0001)**

Note: ASTM A-53 pipe and A-105 fittings. Threaded and coupled. Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. Includes cutting and threading to length where necessary.

23 21 13 23-0003	LF	1/2" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly.....	22.31	4.10
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			5.77	
For Work In Restricted Working Space, Add			4.24	
23 21 13 23-0004	LF	3/4" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly.....	24.82	4.41
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			6.57	
For Work In Restricted Working Space, Add			4.43	
23 21 13 23-0005	LF	1" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly.....	28.03	4.83
Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.				
For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add			7.60	
For Work In Restricted Working Space, Add			4.68	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0006	LF		1-1/4" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add For Work In Restricted Working Space, Add	34.56 9.75 5.04	5.03
23 21 13 23-0007	LF		1-1/2" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add For Work In Restricted Working Space, Add	37.33 10.71 5.12	5.96
23 21 13 23-0008	LF		2" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add For Work In Restricted Working Space, Add	45.42 13.28 5.76	7.18
23 21 13 23-0009	LF		2-1/2" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add For Work In Restricted Working Space, Add	58.52 20.85 7.15	8.51
23 21 13 23-0010	LF		3" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add For Work In Restricted Working Space, Add	87.68 26.89 8.76	11.39
23 21 13 23-0011	LF		4" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add For Work In Restricted Working Space, Add	129.98 41.61 9.72	13.45
23 21 13 23-0012	LF		5" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add For Work In Restricted Working Space, Add	213.01 70.51 11.58	17.20
23 21 13 23-0013	LF		6" Schedule 40 Threaded Black Steel Pipe With 150 LB Malleable Iron Fitting Assembly Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. For Schedule 80 Pipe With 300 LB Malleable Iron Fittings, Add For Work In Restricted Working Space, Add	256.70 85.41 13.12	20.34
23 21 13 23-0014			Threaded Black Steel Pipe And Fittings (23 21 13 23-0001) Note: ASTM A-53 pipe and A-105 fittings. Threaded and coupled, schedule 40. Excludes hangers, elbow, tee, or reducer fittings.		
23 21 13 23-0015			Threaded And Coupled, Black Steel Piping (23 21 13 23-0014) Note: ASTM A-53. Includes coupling. Includes cutting and threading to length where necessary.		
23 21 13 23-0016	LF		3/8" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	8.31 1.93 1.55	2.57
23 21 13 23-0017	LF		1/2" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	11.45 2.98 1.87	4.10
23 21 13 23-0018	LF		3/4" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	13.40 3.71 1.99	4.41
23 21 13 23-0019	LF		1" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	16.21 4.79 2.15	4.83
23 21 13 23-0020	LF		1-1/4" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	19.69 6.20 2.28	5.03
23 21 13 23-0021	LF		1-1/2" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	23.38 7.40 2.68	5.96
23 21 13 23-0022	LF		2" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	29.74 9.60 3.24	7.18
23 21 13 23-0023	LF		2-1/2" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	42.75 14.75 3.85	8.51
23 21 13 23-0024	LF		3" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	56.29 19.35 5.13	11.39
23 21 13 23-0025	LF		4" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	78.81 28.38 6.07	13.45
23 21 13 23-0026	LF		5" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	103.58 37.60 7.73	17.20
23 21 13 23-0027	LF		6" Schedule 40, Threaded And Coupled, Black Steel Pipe For Schedule 80 Pipe, Add For Work In Restricted Working Space, Add	133.10 49.23 9.14	20.34

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0028 LF 8" Schedule 40, Threaded And Coupled, Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	189.04 72.19 11.04	24.58
23 21 13 23-0029 LF 10" Schedule 40, Threaded And Coupled, Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	260.45 101.47 13.49	29.95
23 21 13 23-0030 LF 12" Schedule 40, Threaded And Coupled, Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	348.75 136.28 17.71	39.36
23 21 13 23-0031 Black Malleable Iron 90 Degree Elbows (23 21 13 23-0014)		
23 21 13 23-0032 EA 3/8", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	32.34 24.26 0.15 6.64	15.19
23 21 13 23-0033 EA 1/2", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	33.98 17.53 0.11 8.21	18.26
23 21 13 23-0034 EA 3/4", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	38.61 20.99 0.13 9.19	20.42
23 21 13 23-0035 EA 1", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	48.05 35.29 0.22 10.26	22.77
23 21 13 23-0036 EA 1-1/4", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	61.55 57.14 0.37 11.61	25.86
23 21 13 23-0037 EA 1-1/2", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	73.71 74.74 0.48 13.10	29.14
23 21 13 23-0038 EA 2", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	107.29 127.72 0.83 16.64	37.04
23 21 13 23-0039 EA 2-1/2", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	197.53 282.00 1.85 24.62	54.79
23 21 13 23-0040 EA 3", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	276.94 411.94 2.70 32.40	72.03
23 21 13 23-0041 EA 4", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	480.91 877.99 5.81 35.41	78.71
23 21 13 23-0042 EA 5", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,183.54 2,552.30 16.97 36.95	82.15
23 21 13 23-0043 EA 6", 150 LB, Black Malleable Iron 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,353.66 2,947.46 19.60 38.63	85.89
23 21 13 23-0044 Black Malleable Iron Reducing 90 Degree Elbows (23 21 13 23-0014)		
23 21 13 23-0045 EA 1/2" x 3/8", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	37.67 31.72 0.20 7.52	16.73
23 21 13 23-0046 EA 3/4" x 1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	41.96 32.84 0.21 8.70	19.29
23 21 13 23-0047 EA 3/4" x 3/8", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	44.83 45.07 0.29 8.02	17.86
23 21 13 23-0048 EA 1" x 3/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	49.07 41.91 0.27 9.73	21.64
23 21 13 23-0049 EA 1" x 1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow..... <i>For 300 LB Rating, Add</i> <i>For Standard Weight Cast Iron Fittings, Add</i> <i>For Work In Restricted Working Space, Add</i>	48.74 44.95 0.29 9.23	20.52



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0050	EA	1" x 3/8", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	63.86	18.98
		For 300 LB Rating, Add	.....	86.55	
		For Standard Weight Cast Iron Fittings, Add	.....	0.57	
		For Work In Restricted Working Space, Add	.....	8.55	
23 21 13 23-0051	EA	1-1/4" x 1", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	64.43	24.31
		For 300 LB Rating, Add	.....	69.32	
		For Standard Weight Cast Iron Fittings, Add	.....	0.45	
		For Work In Restricted Working Space, Add	.....	10.94	
23 21 13 23-0052	EA	1-1/4" x 3/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	65.89	23.09
		For 300 LB Rating, Add	.....	77.01	
		For Standard Weight Cast Iron Fittings, Add	.....	0.50	
		For Work In Restricted Working Space, Add	.....	10.40	
23 21 13 23-0053	EA	1-1/4" x 1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	69.51	22.06
		For 300 LB Rating, Add	.....	89.51	
		For Standard Weight Cast Iron Fittings, Add	.....	0.58	
		For Work In Restricted Working Space, Add	.....	9.91	
23 21 13 23-0054	EA	1-1/2" x 1-1/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	80.65	27.50
		For 300 LB Rating, Add	.....	97.20	
		For Standard Weight Cast Iron Fittings, Add	.....	0.63	
		For Work In Restricted Working Space, Add	.....	12.35	
23 21 13 23-0055	EA	1-1/2" x 1", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	78.40	25.96
		For 300 LB Rating, Add	.....	97.06	
		For Standard Weight Cast Iron Fittings, Add	.....	0.63	
		For Work In Restricted Working Space, Add	.....	11.68	
23 21 13 23-0056	EA	1-1/2" x 3/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	82.31	24.73
		For 300 LB Rating, Add	.....	110.64	
		For Standard Weight Cast Iron Fittings, Add	.....	0.72	
		For Work In Restricted Working Space, Add	.....	11.14	
23 21 13 23-0057	EA	2" x 1-1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	106.74	33.04
		For 300 LB Rating, Add	.....	140.21	
		For Standard Weight Cast Iron Fittings, Add	.....	0.91	
		For Work In Restricted Working Space, Add	.....	14.87	
23 21 13 23-0058	EA	2" x 1-1/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	112.08	31.40
		For 300 LB Rating, Add	.....	158.80	
		For Standard Weight Cast Iron Fittings, Add	.....	1.04	
		For Work In Restricted Working Space, Add	.....	14.13	
23 21 13 23-0059	EA	2" x 1", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	109.82	29.86
		For 300 LB Rating, Add	.....	158.67	
		For Standard Weight Cast Iron Fittings, Add	.....	1.04	
		For Work In Restricted Working Space, Add	.....	13.45	
23 21 13 23-0060	EA	2" x 3/4", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	111.95	28.73
		For 300 LB Rating, Add	.....	167.94	
		For Standard Weight Cast Iron Fittings, Add	.....	1.10	
		For Work In Restricted Working Space, Add	.....	12.92	
23 21 13 23-0061	EA	2-1/2" x 2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	225.70	45.87
		For 300 LB Rating, Add	.....	380.76	
		For Standard Weight Cast Iron Fittings, Add	.....	2.51	
		For Work In Restricted Working Space, Add	.....	20.63	
23 21 13 23-0062	EA	2-1/2" x 1-1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	229.05	41.97
		For 300 LB Rating, Add	.....	402.58	
		For Standard Weight Cast Iron Fittings, Add	.....	2.66	
		For Work In Restricted Working Space, Add	.....	18.86	
23 21 13 23-0063	EA	3" x 2-1/2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	388.73	63.41
		For 300 LB Rating, Add	.....	710.56	
		For Standard Weight Cast Iron Fittings, Add	.....	4.70	
		For Work In Restricted Working Space, Add	.....	28.51	
23 21 13 23-0064	EA	3" x 2", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	335.43	54.48
		For 300 LB Rating, Add	.....	613.78	
		For Standard Weight Cast Iron Fittings, Add	.....	4.06	
		For Work In Restricted Working Space, Add	.....	24.52	
23 21 13 23-0065	EA	4" x 3", 150 LB, Black Malleable Iron Reducing 90 Degree Elbow	.....	614.19	74.87
		For 300 LB Rating, Add	.....	1,211.34	
		For Standard Weight Cast Iron Fittings, Add	.....	8.03	
		For Work In Restricted Working Space, Add	.....	33.68	
23 21 13 23-0066	Black Malleable Iron 45 Degree Elbows (23 21 13 23-0014)				
23 21 13 23-0067	EA	3/8", 150 LB, Black Malleable Iron 45 Degree Elbow	.....	37.17	15.19
		For 300 LB Rating, Add	.....	35.86	
		For Standard Weight Cast Iron Fittings, Add	.....	0.23	
		For Work In Restricted Working Space, Add	.....	6.84	
23 21 13 23-0068	EA	1/2", 150 LB, Black Malleable Iron 45 Degree Elbow	.....	38.29	18.26
		For 300 LB Rating, Add	.....	27.87	
		For Standard Weight Cast Iron Fittings, Add	.....	0.17	
		For Work In Restricted Working Space, Add	.....	8.21	
23 21 13 23-0069	EA	3/4", 150 LB, Black Malleable Iron 45 Degree Elbow	.....	44.13	20.42
		For 300 LB Rating, Add	.....	34.24	
		For Standard Weight Cast Iron Fittings, Add	.....	0.22	
		For Work In Restricted Working Space, Add	.....	9.19	
23 21 13 23-0070	EA	1", 150 LB, Black Malleable Iron 45 Degree Elbow	.....	51.20	22.77
		For 300 LB Rating, Add	.....	42.85	
		For Standard Weight Cast Iron Fittings, Add	.....	0.27	
		For Work In Restricted Working Space, Add	.....	10.26	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0071 EA 1-1/4", 150 LB, Black Malleable Iron 45 Degree Elbow	68.79	25.86
For 300 LB Rating, Add	74.51	
For Standard Weight Cast Iron Fittings, Add	0.48	
For Work In Restricted Working Space, Add	11.61	
23 21 13 23-0072 EA 1-1/2", 150 LB, Black Malleable Iron 45 Degree Elbow	80.87	29.14
For 300 LB Rating, Add	91.92	
For Standard Weight Cast Iron Fittings, Add	0.60	
For Work In Restricted Working Space, Add	13.10	
23 21 13 23-0073 EA 2", 150 LB, Black Malleable Iron 45 Degree Elbow	111.72	37.04
For 300 LB Rating, Add	128.35	
For Standard Weight Cast Iron Fittings, Add	0.90	
For Work In Restricted Working Space, Add	16.64	
23 21 13 23-0074 EA 2-1/2", 150 LB, Black Malleable Iron 45 Degree Elbow	244.88	54.79
For 300 LB Rating, Add	395.64	
For Standard Weight Cast Iron Fittings, Add	2.60	
For Work In Restricted Working Space, Add	24.62	
23 21 13 23-0075 EA 3", 150 LB, Black Malleable Iron 45 Degree Elbow	319.46	72.03
For 300 LB Rating, Add	513.98	
For Standard Weight Cast Iron Fittings, Add	3.38	
For Work In Restricted Working Space, Add	32.40	
23 21 13 23-0076 EA 4", 150 LB, Black Malleable Iron 45 Degree Elbow	532.69	78.71
For 300 LB Rating, Add	1,002.27	
For Standard Weight Cast Iron Fittings, Add	6.63	
For Work In Restricted Working Space, Add	35.41	
23 21 13 23-0077 EA 5", 150 LB, Black Malleable Iron 45 Degree Elbow	1,761.10	82.15
For 300 LB Rating, Add	3,938.45	
For Standard Weight Cast Iron Fittings, Add	26.21	
For Work In Restricted Working Space, Add	36.95	
23 21 13 23-0078 EA 6", 150 LB, Black Malleable Iron 45 Degree Elbow	1,804.56	85.89
For 300 LB Rating, Add	4,029.62	
For Standard Weight Cast Iron Fittings, Add	26.81	
For Work In Restricted Working Space, Add	38.63	
23 21 13 23-0079 Black Malleable Iron Tees (23 21 13 23-0074)		
23 21 13 23-0080 EA 3/8", 150 LB, Black Malleable Iron Tee	42.35	18.77
For 300 LB Rating, Add	34.95	
For Standard Weight Cast Iron Fittings, Add	0.22	
For Work In Restricted Working Space, Add	8.55	
23 21 13 23-0081 EA 1/2", 150 LB, Black Malleable Iron Tee	43.04	22.77
For 300 LB Rating, Add	23.27	
For Standard Weight Cast Iron Fittings, Add	0.14	
For Work In Restricted Working Space, Add	10.26	
23 21 13 23-0082 EA 3/4", 150 LB, Black Malleable Iron Tee	52.14	26.37
For 300 LB Rating, Add	32.80	
For Standard Weight Cast Iron Fittings, Add	0.20	
For Work In Restricted Working Space, Add	11.84	
23 21 13 23-0083 EA 1", 150 LB, Black Malleable Iron Tee	68.36	31.09
For 300 LB Rating, Add	54.95	
For Standard Weight Cast Iron Fittings, Add	0.35	
For Work In Restricted Working Space, Add	13.99	
23 21 13 23-0084 EA 1-1/4", 150 LB, Black Malleable Iron Tee	90.64	37.04
For 300 LB Rating, Add	87.76	
For Standard Weight Cast Iron Fittings, Add	0.56	
For Work In Restricted Working Space, Add	16.64	
23 21 13 23-0085 EA 1-1/2", 150 LB, Black Malleable Iron Tee	109.94	44.12
For 300 LB Rating, Add	108.97	
For Standard Weight Cast Iron Fittings, Add	0.70	
For Work In Restricted Working Space, Add	19.86	
23 21 13 23-0086 EA 2", 150 LB, Black Malleable Iron Tee	156.65	54.79
For 300 LB Rating, Add	183.89	
For Standard Weight Cast Iron Fittings, Add	1.19	
For Work In Restricted Working Space, Add	24.62	
23 21 13 23-0087 EA 2-1/2", 150 LB, Black Malleable Iron Tee	268.77	72.03
For 300 LB Rating, Add	392.33	
For Standard Weight Cast Iron Fittings, Add	2.57	
For Work In Restricted Working Space, Add	32.40	
23 21 13 23-0088 EA 3" 150 LB, Black Malleable Iron Tee	365.06	85.57
For 300 LB Rating, Add	576.02	
For Standard Weight Cast Iron Fittings, Add	3.79	
For Work In Restricted Working Space, Add	38.48	
23 21 13 23-0089 EA 4", 150 LB, Black Malleable Iron Tee	721.46	99.46
For 300 LB Rating, Add	1,382.61	
For Standard Weight Cast Iron Fittings, Add	9.16	
For Work In Restricted Working Space, Add	44.73	
23 21 13 23-0090 EA 5", 150 LB, Black Malleable Iron Tee	1,911.49	118.07
For 300 LB Rating, Add	4,173.28	
For Standard Weight Cast Iron Fittings, Add	27.75	
For Work In Restricted Working Space, Add	53.12	
23 21 13 23-0091 EA 6", 150 LB, Black Malleable Iron Tee	2,063.70	134.96
For 300 LB Rating, Add	4,479.40	
For Standard Weight Cast Iron Fittings, Add	29.78	
For Work In Restricted Working Space, Add	60.70	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0092			Black Malleable Iron Reducing Tees (23 21 13 23-0014)		
23 21 13 23-0093	EA		1/2", 150 LB, Black Malleable Iron Reducing Tee.....	49.24	22.77
			For 300 LB Rating, Add	38.15	
			For Standard Weight Cast Iron Fittings, Add	0.24	
			For Work In Restricted Working Space, Add	10.26	
23 21 13 23-0094	EA		3/4", 150 LB, Black Malleable Iron Reducing Tee.....	59.08	26.37
			For 300 LB Rating, Add	49.46	
			For Standard Weight Cast Iron Fittings, Add	0.31	
			For Work In Restricted Working Space, Add	11.64	
23 21 13 23-0095	EA		1", 150 LB, Black Malleable Iron Reducing Tee.....	71.38	31.09
			For 300 LB Rating, Add	62.20	
			For Standard Weight Cast Iron Fittings, Add	0.40	
			For Work In Restricted Working Space, Add	13.99	
23 21 13 23-0096	EA		1-1/4", 150 LB, Black Malleable Iron Reducing Tee	104.12	37.04
			For 300 LB Rating, Add	120.11	
			For Standard Weight Cast Iron Fittings, Add	0.78	
			For Work In Restricted Working Space, Add	16.64	
23 21 13 23-0097	EA		1-1/2", 150 LB, Black Malleable Iron Reducing Tee	120.10	44.12
			For 300 LB Rating, Add	133.36	
			For Standard Weight Cast Iron Fittings, Add	0.86	
			For Work In Restricted Working Space, Add	19.86	
23 21 13 23-0098	EA		2", 150 LB, Black Malleable Iron Reducing Tee.....	160.34	54.79
			For 300 LB Rating, Add	192.75	
			For Standard Weight Cast Iron Fittings, Add	1.25	
			For Work In Restricted Working Space, Add	24.62	
23 21 13 23-0099	EA		2-1/2", 150 LB, Black Malleable Iron Reducing Tee	351.86	72.03
			For 300 LB Rating, Add	591.74	
			For Standard Weight Cast Iron Fittings, Add	3.90	
			For Work In Restricted Working Space, Add	32.40	
23 21 13 23-0100	EA		3", 150 LB, Black Malleable Iron Reducing Tee.....	407.58	85.57
			For 300 LB Rating, Add	678.06	
			For Standard Weight Cast Iron Fittings, Add	4.47	
			For Work In Restricted Working Space, Add	38.48	
23 21 13 23-0101	EA		4", 150 LB, Black Malleable Iron Reducing Tee.....	826.50	99.46
			For 300 LB Rating, Add	1,634.71	
			For Standard Weight Cast Iron Fittings, Add	10.84	
			For Work In Restricted Working Space, Add	44.73	
23 21 13 23-0102	EA		5", 150 LB, Black Malleable Iron Reducing Tee.....	1,748.27	118.07
			For 300 LB Rating, Add	3,781.55	
			For Standard Weight Cast Iron Fittings, Add	25.14	
			For Work In Restricted Working Space, Add	53.12	
23 21 13 23-0103	EA		6", 150 LB, Black Malleable Iron Reducing Tee.....	1,984.47	134.96
			For 300 LB Rating, Add	4,289.25	
			For Standard Weight Cast Iron Fittings, Add	28.51	
			For Work In Restricted Working Space, Add	60.70	
23 21 13 23-0104			Black Malleable Iron Couplings (23 21 13 23-0014)		
23 21 13 23-0105	EA		3/8", 150 LB, Black Malleable Iron Coupling.....	34.67	15.19
			For 300 LB Rating, Add	29.86	
			For Standard Weight Cast Iron Fittings, Add	0.19	
			For Work In Restricted Working Space, Add	6.84	
23 21 13 23-0106	EA		1/2", 150 LB, Black Malleable Iron Coupling.....	36.50	18.26
			For 300 LB Rating, Add	23.58	
			For Standard Weight Cast Iron Fittings, Add	0.15	
			For Work In Restricted Working Space, Add	8.21	
23 21 13 23-0107	EA		3/4", 150 LB, Black Malleable Iron Coupling.....	41.33	20.42
			For 300 LB Rating, Add	27.52	
			For Standard Weight Cast Iron Fittings, Add	0.17	
			For Work In Restricted Working Space, Add	9.19	
23 21 13 23-0108	EA		1", 150 LB, Black Malleable Iron Coupling.....	50.23	22.77
			For 300 LB Rating, Add	40.52	
			For Standard Weight Cast Iron Fittings, Add	0.26	
			For Work In Restricted Working Space, Add	10.26	
23 21 13 23-0109	EA		1-1/4", 150 LB, Black Malleable Iron Coupling.....	59.47	25.86
			For 300 LB Rating, Add	52.15	
			For Standard Weight Cast Iron Fittings, Add	0.33	
			For Work In Restricted Working Space, Add	11.61	
23 21 13 23-0110	EA		1-1/2", 150 LB, Black Malleable Iron Coupling.....	71.71	29.14
			For 300 LB Rating, Add	69.94	
			For Standard Weight Cast Iron Fittings, Add	0.45	
			For Work In Restricted Working Space, Add	13.10	
23 21 13 23-0111	EA		2", 150 LB, Black Malleable Iron Coupling.....	97.03	37.04
			For 300 LB Rating, Add	103.10	
			For Standard Weight Cast Iron Fittings, Add	0.67	
			For Work In Restricted Working Space, Add	16.64	
23 21 13 23-0112	EA		2-1/2", 150 LB, Black Malleable Iron Coupling.....	196.79	54.79
			For 300 LB Rating, Add	280.23	
			For Standard Weight Cast Iron Fittings, Add	1.84	
			For Work In Restricted Working Space, Add	24.62	
23 21 13 23-0113	EA		3", 150 LB, Black Malleable Iron Coupling.....	263.09	72.03
			For 300 LB Rating, Add	378.70	
			For Standard Weight Cast Iron Fittings, Add	2.48	
			For Work In Restricted Working Space, Add	32.40	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0114	EA	4", 150 LB, Black Malleable Iron Coupling.....	430.37	78.71
		For 300 LB Rating, Add	756.70	
		For Standard Weight Cast Iron Fittings, Add	5.00	
		For Work In Restricted Working Space, Add	35.41	
23 21 13 23-0115	EA	5", 150 LB, Black Malleable Iron Coupling.....	1,002.65	82.15
		For 300 LB Rating, Add	2,118.17	
		For Standard Weight Cast Iron Fittings, Add	14.07	
		For Work In Restricted Working Space, Add	36.95	
23 21 13 23-0116	EA	6", 150 LB, Black Malleable Iron Coupling.....	1,130.73	85.89
		For 300 LB Rating, Add	2,412.43	
		For Standard Weight Cast Iron Fittings, Add	16.03	
		For Work In Restricted Working Space, Add	38.63	
23 21 13 23-0117 Black Malleable Iron Reducing Couplings (23 21 13 23-0014)				
23 21 13 23-0118	EA	1/2", 150 LB, Black Malleable Iron Reducing Coupling.....	38.71	18.26
		For 300 LB Rating, Add	28.85	
		For Standard Weight Cast Iron Fittings, Add	0.18	
		For Work In Restricted Working Space, Add	8.21	
23 21 13 23-0119	EA	3/4", 150 LB, Black Malleable Iron Reducing Coupling.....	42.65	20.42
		For 300 LB Rating, Add	30.69	
		For Standard Weight Cast Iron Fittings, Add	0.19	
		For Work In Restricted Working Space, Add	9.19	
23 21 13 23-0120	EA	1", 150 LB, Black Malleable Iron Reducing Coupling.....	52.91	22.77
		For 300 LB Rating, Add	46.96	
		For Standard Weight Cast Iron Fittings, Add	0.30	
		For Work In Restricted Working Space, Add	10.26	
23 21 13 23-0121	EA	1-1/4", 150 LB, Black Malleable Iron Reducing Coupling.....	62.77	25.86
		For 300 LB Rating, Add	60.07	
		For Standard Weight Cast Iron Fittings, Add	0.38	
		For Work In Restricted Working Space, Add	11.61	
23 21 13 23-0122	EA	1-1/2", 150 LB, Black Malleable Iron Reducing Coupling.....	74.06	29.14
		For 300 LB Rating, Add	75.58	
		For Standard Weight Cast Iron Fittings, Add	0.49	
		For Work In Restricted Working Space, Add	13.10	
23 21 13 23-0123	EA	2", 150 LB, Black Malleable Iron Reducing Coupling.....	99.51	37.04
		For 300 LB Rating, Add	109.05	
		For Standard Weight Cast Iron Fittings, Add	0.70	
		For Work In Restricted Working Space, Add	16.64	
23 21 13 23-0124	EA	2-1/2", 150 LB, Black Malleable Iron Reducing Coupling.....	212.27	54.79
		For 300 LB Rating, Add	317.38	
		For Standard Weight Cast Iron Fittings, Add	2.08	
		For Work In Restricted Working Space, Add	24.62	
23 21 13 23-0125	EA	3", 150 LB, Black Malleable Iron Reducing Coupling.....	266.26	72.03
		For 300 LB Rating, Add	386.30	
		For Standard Weight Cast Iron Fittings, Add	2.53	
		For Work In Restricted Working Space, Add	32.40	
23 21 13 23-0126	EA	4", 150 LB, Black Malleable Iron Reducing Coupling.....	435.25	78.71
		For 300 LB Rating, Add	768.41	
		For Standard Weight Cast Iron Fittings, Add	5.08	
		For Work In Restricted Working Space, Add	35.41	
23 21 13 23-0127	EA	5", 150 LB, Black Malleable Iron Reducing Coupling.....	836.17	82.15
		For 300 LB Rating, Add	1,718.61	
		For Standard Weight Cast Iron Fittings, Add	11.41	
		For Work In Restricted Working Space, Add	36.95	
23 21 13 23-0128	EA	6", 150 LB, Black Malleable Iron Reducing Coupling.....	1,044.56	85.89
		For 300 LB Rating, Add	2,205.62	
		For Standard Weight Cast Iron Fittings, Add	14.65	
		For Work In Restricted Working Space, Add	38.63	
23 21 13 23-0129 Black Malleable Iron Caps (23 21 13 23-0014)				
23 21 13 23-0130	EA	1/2", 150 LB, Black Malleable Iron Cap	19.00	8.10
		For 300 LB Rating, Add	16.79	
		For Standard Weight Cast Iron Fittings, Add	0.11	
		For Work In Restricted Working Space, Add	3.69	
23 21 13 23-0131	EA	3/4", 150 LB, Black Malleable Iron Cap	22.82	9.13
		For 300 LB Rating, Add	22.52	
		For Standard Weight Cast Iron Fittings, Add	0.14	
		For Work In Restricted Working Space, Add	4.13	
23 21 13 23-0132	EA	1", 150 LB, Black Malleable Iron Cap	26.34	10.16
		For 300 LB Rating, Add	27.20	
		For Standard Weight Cast Iron Fittings, Add	0.18	
		For Work In Restricted Working Space, Add	4.62	
23 21 13 23-0133	EA	1-1/4", 150 LB, Black Malleable Iron Cap	31.84	11.49
		For 300 LB Rating, Add	35.65	
		For Standard Weight Cast Iron Fittings, Add	0.23	
		For Work In Restricted Working Space, Add	5.23	
23 21 13 23-0134	EA	1-1/2", 150 LB, Black Malleable Iron Cap	39.47	12.93
		For 300 LB Rating, Add	48.75	
		For Standard Weight Cast Iron Fittings, Add	0.32	
		For Work In Restricted Working Space, Add	5.90	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21	13	23-0135	EA 2", 150 LB, Black Malleable Iron Cap For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add EA 2-1/2", 150 LB, Black Malleable Iron Cap For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add EA 3", 150 LB, Black Malleable Iron Cap For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add EA 4", 150 LB, Black Malleable Iron Cap For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add EA 5", 150 LB, Black Malleable Iron Cap For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add EA 6", 150 LB, Black Malleable Iron Cap For 300 LB Rating, Add For Standard Weight Cast Iron Fittings, Add For Work In Restricted Working Space, Add	53.89 70.95 0.46 7.49 103.34 161.58 1.06 11.08 146.51 237.90 1.57 14.58 221.01 406.15 2.69 15.93 455.59 963.73 6.40 16.63 791.48 1,763.97 11.74 17.38	16.52 24.42 32.11 35.11 36.62 38.25
23 21	13	23-0141	Black Malleable Iron Unions (23 21 13 23-0014)		
23 21	13	23-0142	EA 3/8", 150 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1/2", 150 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 3/4", 150 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1", 150 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1-1/4", 150 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1-1/2", 150 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 2", 150 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 2-1/2", 150 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 3", 150 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 3/8", 250 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1/2", 250 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 3/4", 250 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1", 250 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1-1/4", 250 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1-1/2", 250 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 2", 250 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 2-1/2", 250 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 3", 250 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 4", 250 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 3/8", 300 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1/2", 300 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 3/4", 300 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1", 300 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1-1/4", 300 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 1-1/2", 300 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 2", 300 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 2-1/2", 300 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 3", 300 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add EA 4", 300 LB, Black Malleable Iron Union For Work In Restricted Working Space, Add	54.86 6.84 63.21 10.26 72.81 11.84 90.11 13.99 117.82 16.64 143.93 19.86 172.48 24.62 390.50 36.35 483.66 47.83 65.17 6.84 82.81 10.26 87.28 11.84 105.30 13.99 153.89 16.64 179.52 19.86 227.46 24.62 576.86 36.35 692.74 47.83 1,119.54 52.27 91.55 6.84 89.82 10.26 101.05 11.84 127.05 13.99 186.62 16.64 203.55 19.86 252.21 24.62 669.69 36.35 869.04 47.83 2,426.48 52.27	15.19 22.77 26.37 31.09 37.04 44.12 54.79 80.75 106.20 15.19 22.77 26.37 31.09 37.04 44.12 54.79 80.75 106.20 116.14 15.19 22.77 26.37 31.09 37.04 44.12 54.79 80.75 106.20 116.14

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
23 21 13 23-0171	Black Steel Nipples (23 21 13 23-0014)				
23 21 13 23-0172	EA 3/8" x Close, Schedule 40 Black Steel Nipple.....	19.91		9.74	
	For Schedule 80 Nipples, Add	2.63			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0173	EA 1/2" x Close, Schedule 40 Black Steel Nipple.....	19.09		9.74	
	For Schedule 80 Nipples, Add	2.22			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0174	EA 3/4" x Close, Schedule 40 Black Steel Nipple.....	19.75		9.74	
	For Schedule 80 Nipples, Add	2.55			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0175	EA 1" x Close, Schedule 40 Black Steel Nipple.....	23.17		10.57	
	For Schedule 80 Nipples, Add	3.69			
	For Work In Restricted Working Space, Add	4.74			
23 21 13 23-0176	EA 1-1/4" x Close, Schedule 40 Black Steel Nipple.....	26.45		11.39	
	For Schedule 80 Nipples, Add	4.68			
	For Work In Restricted Working Space, Add	5.13			
23 21 13 23-0177	EA 1-1/2" x Close, Schedule 40 Black Steel Nipple.....	28.75		11.39	
	For Schedule 80 Nipples, Add	5.83			
	For Work In Restricted Working Space, Add	5.13			
23 21 13 23-0178	EA 2" x Close, Schedule 40 Black Steel Nipple.....	37.93		14.67	
	For Schedule 80 Nipples, Add	7.93			
	For Work In Restricted Working Space, Add	6.62			
23 21 13 23-0179	EA 2-1/2" x Close, Schedule 40 Black Steel Nipple.....	77.02		18.26	
	For Schedule 80 Nipples, Add	24.83			
	For Work In Restricted Working Space, Add	8.21			
23 21 13 23-0180	EA 3" x Close, Schedule 40 Black Steel Nipple.....	92.11		22.06	
	For Schedule 80 Nipples, Add	29.51			
	For Work In Restricted Working Space, Add	9.93			
23 21 13 23-0181	EA 4" x Close, Schedule 40 Black Steel Nipple.....	129.34		27.01	
	For Schedule 80 Nipples, Add	44.44			
	For Work In Restricted Working Space, Add	12.14			
23 21 13 23-0182	EA 3/8" x 1-1/2" Long, Schedule 40 Black Steel Nipple.....	20.62		9.74	
	For Schedule 80 Nipples, Add	2.98			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0183	EA 1/2" x 1-1/2" Long, Schedule 40 Black Steel Nipple.....	19.09		9.74	
	For Schedule 80 Nipples, Add	2.22			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0184	EA 3/4" x 1-1/2" Long, Schedule 40 Black Steel Nipple.....	20.13		9.74	
	For Schedule 80 Nipples, Add	2.74			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0185	EA 3/8" x 2" Long, Schedule 40 Black Steel Nipple.....	20.62		9.74	
	For Schedule 80 Nipples, Add	2.98			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0186	EA 1/2" x 2" Long, Schedule 40 Black Steel Nipple.....	19.09		9.74	
	For Schedule 80 Nipples, Add	2.22			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0187	EA 3/4" x 2" Long, Schedule 40 Black Steel Nipple.....	20.13		9.74	
	For Schedule 80 Nipples, Add	2.74			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0188	EA 1" x 2" Long, Schedule 40 Black Steel Nipple.....	23.88		10.57	
	For Schedule 80 Nipples, Add	4.05			
	For Work In Restricted Working Space, Add	4.74			
23 21 13 23-0189	EA 1-1/4" x 2" Long, Schedule 40 Black Steel Nipple.....	27.71		11.39	
	For Schedule 80 Nipples, Add	5.31			
	For Work In Restricted Working Space, Add	5.13			
23 21 13 23-0190	EA 1-1/2" x 2" Long, Schedule 40 Black Steel Nipple.....	29.68		11.39	
	For Schedule 80 Nipples, Add	6.29			
	For Work In Restricted Working Space, Add	5.13			
23 21 13 23-0191	EA 3/8" x 2-1/2" Long, Schedule 40 Black Steel Nipple.....	22.32		9.74	
	For Schedule 80 Nipples, Add	3.83			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0192	EA 1/2" x 2-1/2" Long, Schedule 40 Black Steel Nipple.....	19.91		9.74	
	For Schedule 80 Nipples, Add	2.63			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0193	EA 3/4" x 2-1/2" Long, Schedule 40 Black Steel Nipple.....	20.84		9.74	
	For Schedule 80 Nipples, Add	3.09			
	For Work In Restricted Working Space, Add	4.40			
23 21 13 23-0194	EA 1" x 2-1/2" Long, Schedule 40 Black Steel Nipple.....	24.38		10.57	
	For Schedule 80 Nipples, Add	4.30			
	For Work In Restricted Working Space, Add	4.74			
23 21 13 23-0195	EA 1-1/4" x 2-1/2" Long, Schedule 40 Black Steel Nipple.....	28.37		11.39	
	For Schedule 80 Nipples, Add	5.64			
	For Work In Restricted Working Space, Add	5.13			
23 21 13 23-0196	EA 1-1/2" x 2-1/2" Long, Schedule 40 Black Steel Nipple.....	31.16		11.39	
	For Schedule 80 Nipples, Add	7.03			
	For Work In Restricted Working Space, Add	5.13			
23 21 13 23-0197	EA 2" x 2-1/2" Long, Schedule 40 Black Steel Nipple.....	40.28		14.67	
	For Schedule 80 Nipples, Add	9.11			
	For Work In Restricted Working Space, Add	6.62			
23 21 13 23-0198	EA 3/8" x 3" Long, Schedule 40 Black Steel Nipple.....	22.32		9.74	
	For Schedule 80 Nipples, Add	3.83			
	For Work In Restricted Working Space, Add	4.40			



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Hydronic Piping and Pumps			23 21	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13	23-0199	EA	1/2" x 3" Long, Schedule 40 Black Steel Nipple.....	19.91	9.74
			For Schedule 80 Nipples, Add	2.63	
			For Work In Restricted Working Space, Add	4.40	
23 21 13	23-0200	EA	3/4" x 3" Long, Schedule 40 Black Steel Nipple.....	20.84	9.74
			For Schedule 80 Nipples, Add	3.09	
			For Work In Restricted Working Space, Add	4.40	
23 21 13	23-0201	EA	1" x 3" Long, Schedule 40 Black Steel Nipple.....	24.38	10.57
			For Schedule 80 Nipples, Add	4.30	
			For Work In Restricted Working Space, Add	4.74	
23 21 13	23-0202	EA	1-1/4" x 3" Long, Schedule 40 Black Steel Nipple	28.37	11.39
			For Schedule 80 Nipples, Add	5.64	
			For Work In Restricted Working Space, Add	5.13	
23 21 13	23-0203	EA	1-1/2" x 3" Long, Schedule 40 Black Steel Nipple	31.16	11.39
			For Schedule 80 Nipples, Add	7.03	
			For Work In Restricted Working Space, Add	5.13	
23 21 13	23-0204	EA	2" x 3" Long, Schedule 40 Black Steel Nipple.....	40.28	14.67
			For Schedule 80 Nipples, Add	9.11	
			For Work In Restricted Working Space, Add	6.62	
23 21 13	23-0205	EA	2-1/2" x 3" Long, Schedule 40 Black Steel Nipple	78.33	18.26
			For Schedule 80 Nipples, Add	25.49	
			For Work In Restricted Working Space, Add	8.21	
23 21 13	23-0206	EA	3" x 3" Long, Schedule 40 Black Steel Nipple.....	97.25	22.06
			For Schedule 80 Nipples, Add	32.08	
			For Work In Restricted Working Space, Add	9.93	
23 21 13	23-0207	EA	3/8" x 3-1/2" Long, Schedule 40 Black Steel Nipple	23.68	9.74
			For Schedule 80 Nipples, Add	4.51	
			For Work In Restricted Working Space, Add	4.40	
23 21 13	23-0208	EA	1/2" x 3-1/2" Long, Schedule 40 Black Steel Nipple	20.95	9.74
			For Schedule 80 Nipples, Add	3.15	
			For Work In Restricted Working Space, Add	4.40	
23 21 13	23-0209	EA	3/4" x 3-1/2" Long, Schedule 40 Black Steel Nipple	22.32	9.74
			For Schedule 80 Nipples, Add	3.83	
			For Work In Restricted Working Space, Add	4.40	
23 21 13	23-0210	EA	1" x 3-1/2" Long, Schedule 40 Black Steel Nipple	26.40	10.57
			For Schedule 80 Nipples, Add	5.31	
			For Work In Restricted Working Space, Add	4.74	
23 21 13	23-0211	EA	1-1/4" x 3-1/2" Long, Schedule 40 Black Steel Nipple	30.44	11.39
			For Schedule 80 Nipples, Add	6.67	
			For Work In Restricted Working Space, Add	5.13	
23 21 13	23-0212	EA	1-1/2" x 3-1/2" Long, Schedule 40 Black Steel Nipple	32.85	11.39
			For Schedule 80 Nipples, Add	7.88	
			For Work In Restricted Working Space, Add	5.13	
23 21 13	23-0213	EA	2" x 3-1/2" Long, Schedule 40 Black Steel Nipple	44.11	14.67
			For Schedule 80 Nipples, Add	11.02	
			For Work In Restricted Working Space, Add	6.62	
23 21 13	23-0214	EA	2-1/2" x 3-1/2" Long, Schedule 40 Black Steel Nipple	87.30	18.26
			For Schedule 80 Nipples, Add	29.97	
			For Work In Restricted Working Space, Add	8.21	
23 21 13	23-0215	EA	3" x 3-1/2" Long, Schedule 40 Black Steel Nipple	109.07	22.06
			For Schedule 80 Nipples, Add	37.99	
			For Work In Restricted Working Space, Add	9.93	
23 21 13	23-0216	EA	3/8" x 4" Long, Schedule 40 Black Steel Nipple.....	23.68	9.74
			For Schedule 80 Nipples, Add	4.51	
			For Work In Restricted Working Space, Add	4.40	
23 21 13	23-0217	EA	1/2" x 4" Long, Schedule 40 Black Steel Nipple.....	20.95	9.74
			For Schedule 80 Nipples, Add	3.15	
			For Work In Restricted Working Space, Add	4.40	
23 21 13	23-0218	EA	3/4" x 4" Long, Schedule 40 Black Steel Nipple.....	22.32	9.74
			For Schedule 80 Nipples, Add	3.83	
			For Work In Restricted Working Space, Add	4.40	
23 21 13	23-0219	EA	1" x 4" Long, Schedule 40 Black Steel Nipple.....	26.40	10.57
			For Schedule 80 Nipples, Add	5.31	
			For Work In Restricted Working Space, Add	4.74	
23 21 13	23-0220	EA	1-1/4" x 4" Long, Schedule 40 Black Steel Nipple	30.44	11.39
			For Schedule 80 Nipples, Add	6.67	
			For Work In Restricted Working Space, Add	5.13	
23 21 13	23-0221	EA	1-1/2" x 4" Long, Schedule 40 Black Steel Nipple	32.85	11.39
			For Schedule 80 Nipples, Add	7.88	
			For Work In Restricted Working Space, Add	5.13	
23 21 13	23-0222	EA	2" x 4" Long, Schedule 40 Black Steel Nipple.....	44.11	14.67
			For Schedule 80 Nipples, Add	11.02	
			For Work In Restricted Working Space, Add	6.62	
23 21 13	23-0223	EA	2-1/2" x 4" Long, Schedule 40 Black Steel Nipple	87.30	18.26
			For Schedule 80 Nipples, Add	29.97	
			For Work In Restricted Working Space, Add	8.21	
23 21 13	23-0224	EA	3" x 4" Long, Schedule 40 Black Steel Nipple.....	109.07	22.06
			For Schedule 80 Nipples, Add	37.99	
			For Work In Restricted Working Space, Add	9.93	
23 21 13	23-0225	EA	4" x 4" Long, Schedule 40 Black Steel Nipple.....	143.29	27.01
			For Schedule 80 Nipples, Add	51.41	
			For Work In Restricted Working Space, Add	12.14	
23 21 13	23-0226	EA	3/8" x 4-1/2" Long, Schedule 40 Black Steel Nipple	27.68	9.74
			For Schedule 80 Nipples, Add	6.51	
			For Work In Restricted Working Space, Add	4.40	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0227	EA	1/2" x 4-1/2" Long, Schedule 40 Black Steel Nipple	22.04	9.74
		For Schedule 80 Nipples, Add	3.69	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0228	EA	3/4" x 4-1/2" Long, Schedule 40 Black Steel Nipple	24.29	9.74
		For Schedule 80 Nipples, Add	4.82	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0229	EA	1" x 4-1/2" Long, Schedule 40 Black Steel Nipple	28.37	10.57
		For Schedule 80 Nipples, Add	6.29	
		For Work In Restricted Working Space, Add	4.74	
23 21 13 23-0230	EA	1-1/4" x 4-1/2" Long, Schedule 40 Black Steel Nipple	33.07	11.39
		For Schedule 80 Nipples, Add	7.99	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0231	EA	1-1/2" x 4-1/2" Long, Schedule 40 Black Steel Nipple	36.35	11.39
		For Schedule 80 Nipples, Add	9.63	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0232	EA	2" x 4-1/2" Long, Schedule 40 Black Steel Nipple	47.45	14.67
		For Schedule 80 Nipples, Add	12.69	
		For Work In Restricted Working Space, Add	6.62	
23 21 13 23-0233	EA	2-1/2" x 4-1/2" Long, Schedule 40 Black Steel Nipple	93.21	18.26
		For Schedule 80 Nipples, Add	32.93	
		For Work In Restricted Working Space, Add	8.21	
23 21 13 23-0234	EA	3" x 4-1/2" Long, Schedule 40 Black Steel Nipple	116.89	22.06
		For Schedule 80 Nipples, Add	41.90	
		For Work In Restricted Working Space, Add	9.93	
23 21 13 23-0235	EA	4" x 4-1/2" Long, Schedule 40 Black Steel Nipple	157.95	27.01
		For Schedule 80 Nipples, Add	58.74	
		For Work In Restricted Working Space, Add	12.14	
23 21 13 23-0236	EA	3/8" x 5" Long, Schedule 40 Black Steel Nipple	27.68	9.74
		For Schedule 80 Nipples, Add	6.51	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0237	EA	1/2" x 5" Long, Schedule 40 Black Steel Nipple	22.04	9.74
		For Schedule 80 Nipples, Add	3.69	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0238	EA	3/4" x 5" Long, Schedule 40 Black Steel Nipple	24.29	9.74
		For Schedule 80 Nipples, Add	4.82	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0239	EA	1" x 5" Long, Schedule 40 Black Steel Nipple	28.37	10.57
		For Schedule 80 Nipples, Add	6.29	
		For Work In Restricted Working Space, Add	4.74	
23 21 13 23-0240	EA	1-1/4" x 5" Long, Schedule 40 Black Steel Nipple	33.07	11.39
		For Schedule 80 Nipples, Add	7.99	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0241	EA	1-1/2" x 5" Long, Schedule 40 Black Steel Nipple	36.35	11.39
		For Schedule 80 Nipples, Add	9.63	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0242	EA	2" x 5" Long, Schedule 40 Black Steel Nipple	47.45	14.67
		For Schedule 80 Nipples, Add	12.69	
		For Work In Restricted Working Space, Add	6.62	
23 21 13 23-0243	EA	2-1/2" x 5" Long, Schedule 40 Black Steel Nipple	93.21	18.26
		For Schedule 80 Nipples, Add	32.93	
		For Work In Restricted Working Space, Add	8.21	
23 21 13 23-0244	EA	3" x 5" Long, Schedule 40 Black Steel Nipple	116.89	22.06
		For Schedule 80 Nipples, Add	41.90	
		For Work In Restricted Working Space, Add	9.93	
23 21 13 23-0245	EA	4" x 5" Long, Schedule 40 Black Steel Nipple	157.95	27.01
		For Schedule 80 Nipples, Add	58.74	
		For Work In Restricted Working Space, Add	12.14	
23 21 13 23-0246	EA	3/8" x 6" Long, Schedule 40 Black Steel Nipple	29.15	9.74
		For Schedule 80 Nipples, Add	7.25	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0247	EA	1/2" x 6" Long, Schedule 40 Black Steel Nipple	22.92	9.74
		For Schedule 80 Nipples, Add	4.13	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0248	EA	3/4" x 6" Long, Schedule 40 Black Steel Nipple	25.60	9.74
		For Schedule 80 Nipples, Add	5.47	
		For Work In Restricted Working Space, Add	4.40	
23 21 13 23-0249	EA	1" x 6" Long, Schedule 40 Black Steel Nipple	30.67	10.57
		For Schedule 80 Nipples, Add	7.44	
		For Work In Restricted Working Space, Add	4.74	
23 21 13 23-0250	EA	1-1/4" x 6" Long, Schedule 40 Black Steel Nipple	36.02	11.39
		For Schedule 80 Nipples, Add	9.46	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0251	EA	1-1/2" x 6" Long, Schedule 40 Black Steel Nipple	39.20	11.39
		For Schedule 80 Nipples, Add	11.05	
		For Work In Restricted Working Space, Add	5.13	
23 21 13 23-0252	EA	2" x 6" Long, Schedule 40 Black Steel Nipple	51.82	14.67
		For Schedule 80 Nipples, Add	14.88	
		For Work In Restricted Working Space, Add	6.62	
23 21 13 23-0253	EA	2-1/2" x 6" Long, Schedule 40 Black Steel Nipple	96.00	18.26
		For Schedule 80 Nipples, Add	34.32	
		For Work In Restricted Working Space, Add	8.21	
23 21 13 23-0254	EA	3" x 6" Long, Schedule 40 Black Steel Nipple	124.16	22.06
		For Schedule 80 Nipples, Add	45.53	
		For Work In Restricted Working Space, Add	9.93	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0255	EA	4" x 6" Long, Schedule 40 Black Steel Nipple.....	166.04	27.01	
		For Schedule 80 Nipples, Add	62.79		
		For Work In Restricted Working Space, Add	12.14		
23 21 13 23-0256	EA	3/8" x 8" Long, Schedule 40 Black Steel Nipple.....	40.09	9.74	
		For Schedule 80 Nipples, Add	12.72		
		For Work In Restricted Working Space, Add	4.40		
23 21 13 23-0257	EA	1/2" x 8" Long, Schedule 40 Black Steel Nipple.....	29.54	9.74	
		For Schedule 80 Nipples, Add	7.44		
		For Work In Restricted Working Space, Add	4.40		
23 21 13 23-0258	EA	3/4" x 8" Long, Schedule 40 Black Steel Nipple.....	32.87	9.74	
		For Schedule 80 Nipples, Add	9.11		
		For Work In Restricted Working Space, Add	4.40		
23 21 13 23-0259	EA	1" x 8" Long, Schedule 40 Black Steel Nipple.....	40.13	10.57	
		For Schedule 80 Nipples, Add	12.17		
		For Work In Restricted Working Space, Add	4.74		
23 21 13 23-0260	EA	1-1/4" x 8" Long, Schedule 40 Black Steel Nipple	47.67	11.39	
		For Schedule 80 Nipples, Add	15.29		
		For Work In Restricted Working Space, Add	5.13		
23 21 13 23-0261	EA	1-1/2" x 8" Long, Schedule 40 Black Steel Nipple	52.16	11.39	
		For Schedule 80 Nipples, Add	17.53		
		For Work In Restricted Working Space, Add	5.13		
23 21 13 23-0262	EA	2" x 8" Long, Schedule 40 Black Steel Nipple.....	71.95	14.67	
		For Schedule 80 Nipples, Add	24.94		
		For Work In Restricted Working Space, Add	6.62		
23 21 13 23-0263	EA	2-1/2" x 8" Long, Schedule 40 Black Steel Nipple	114.70	18.26	
		For Schedule 80 Nipples, Add	43.67		
		For Work In Restricted Working Space, Add	8.21		
23 21 13 23-0264	EA	3" x 8" Long, Schedule 40 Black Steel Nipple.....	155.94	22.06	
		For Schedule 80 Nipples, Add	61.42		
		For Work In Restricted Working Space, Add	9.93		
23 21 13 23-0265	EA	4" x 8" Long, Schedule 40 Black Steel Nipple.....	185.40	27.01	
		For Schedule 80 Nipples, Add	72.47		
		For Work In Restricted Working Space, Add	12.14		
23 21 13 23-0266	EA	3/8" x 10" Long, Schedule 40 Black Steel Nipple.....	43.21	9.74	
		For Schedule 80 Nipples, Add	14.28		
		For Work In Restricted Working Space, Add	4.40		
23 21 13 23-0267	EA	1/2" x 10" Long, Schedule 40 Black Steel Nipple.....	32.54	9.74	
		For Schedule 80 Nipples, Add	8.94		
		For Work In Restricted Working Space, Add	4.40		
23 21 13 23-0268	EA	3/4" x 10" Long, Schedule 40 Black Steel Nipple.....	35.83	9.74	
		For Schedule 80 Nipples, Add	10.59		
		For Work In Restricted Working Space, Add	4.40		
23 21 13 23-0269	EA	1" x 10" Long, Schedule 40 Black Steel Nipple.....	44.23	10.57	
		For Schedule 80 Nipples, Add	14.22		
		For Work In Restricted Working Space, Add	4.74		
23 21 13 23-0270	EA	1-1/4" x 10" Long, Schedule 40 Black Steel Nipple	53.74	11.39	
		For Schedule 80 Nipples, Add	18.32		
		For Work In Restricted Working Space, Add	5.13		
23 21 13 23-0271	EA	1-1/2" x 10" Long, Schedule 40 Black Steel Nipple	58.12	11.39	
		For Schedule 80 Nipples, Add	20.51		
		For Work In Restricted Working Space, Add	5.13		
23 21 13 23-0272	EA	2" x 10" Long, Schedule 40 Black Steel Nipple.....	80.70	14.67	
		For Schedule 80 Nipples, Add	29.32		
		For Work In Restricted Working Space, Add	6.62		
23 21 13 23-0273	EA	2-1/2" x 10" Long, Schedule 40 Black Steel Nipple	125.47	18.26	
		For Schedule 80 Nipples, Add	49.06		
		For Work In Restricted Working Space, Add	8.21		
23 21 13 23-0274	EA	3" x 10" Long, Schedule 40 Black Steel Nipple.....	171.08	22.06	
		For Schedule 80 Nipples, Add	68.99		
		For Work In Restricted Working Space, Add	9.93		
23 21 13 23-0275	EA	4" x 10" Long, Schedule 40 Black Steel Nipple.....	205.53	27.01	
		For Schedule 80 Nipples, Add	82.53		
		For Work In Restricted Working Space, Add	12.14		
23 21 13 23-0276	EA	3/8" x 12" Long, Schedule 40 Black Steel Nipple.....	47.15	9.74	
		For Schedule 80 Nipples, Add	16.25		
		For Work In Restricted Working Space, Add	4.40		
23 21 13 23-0277	EA	1/2" x 12" Long, Schedule 40 Black Steel Nipple.....	35.88	9.74	
		For Schedule 80 Nipples, Add	10.61		
		For Work In Restricted Working Space, Add	4.40		
23 21 13 23-0278	EA	3/4" x 12" Long, Schedule 40 Black Steel Nipple.....	38.18	9.74	
		For Schedule 80 Nipples, Add	11.76		
		For Work In Restricted Working Space, Add	4.40		
23 21 13 23-0279	EA	1" x 12" Long, Schedule 40 Black Steel Nipple.....	48.44	10.57	
		For Schedule 80 Nipples, Add	16.33		
		For Work In Restricted Working Space, Add	4.74		
23 21 13 23-0280	EA	1-1/4" x 12" Long, Schedule 40 Black Steel Nipple	58.66	11.39	
		For Schedule 80 Nipples, Add	20.78		
		For Work In Restricted Working Space, Add	5.13		
23 21 13 23-0281	EA	1-1/2" x 12" Long, Schedule 40 Black Steel Nipple	64.35	11.39	
		For Schedule 80 Nipples, Add	23.63		
		For Work In Restricted Working Space, Add	5.13		
23 21 13 23-0282	EA	2" x 12" Long, Schedule 40 Black Steel Nipple.....	89.56	14.67	
		For Schedule 80 Nipples, Add	33.75		
		For Work In Restricted Working Space, Add	6.62		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0283	EA	2-1/2" x 12" Long, Schedule 40 Black Steel Nipple	136.52	18.26
		<i>For Schedule 80 Nipples, Add</i>	54.58	
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13 23-0284	EA	3" x 12" Long, Schedule 40 Black Steel Nipple	186.23	22.06
		<i>For Schedule 80 Nipples, Add</i>	76.57	
		<i>For Work In Restricted Working Space, Add</i>	9.93	
23 21 13 23-0285	EA	4" x 12" Long, Schedule 40 Black Steel Nipple	233.97	27.01
		<i>For Schedule 80 Nipples, Add</i>	96.75	
		<i>For Work In Restricted Working Space, Add</i>	12.14	
23 21 13 23-0286 Black Malleable Iron Bushing (23 21 13 23-0014)				
23 21 13 23-0287	EA	1/2" x 3/8", 150 LB, Black Malleable Iron Bushing	35.24	16.73
		<i>For Work In Restricted Working Space, Add</i>	7.52	
23 21 13 23-0288	EA	3/4" x 3/8", 150 LB, Black Malleable Iron Bushing	41.58	17.96
		<i>For Work In Restricted Working Space, Add</i>	8.08	
23 21 13 23-0289	EA	3/4" x 1/2", 150 LB, Black Malleable Iron Bushing	43.64	19.29
		<i>For Work In Restricted Working Space, Add</i>	8.70	
23 21 13 23-0290	EA	1" x 3/8", 150 LB, Black Malleable Iron Bushing	48.92	19.19
		<i>For Work In Restricted Working Space, Add</i>	8.62	
23 21 13 23-0291	EA	1" x 1/2", 150 LB, Black Malleable Iron Bushing	45.87	20.52
		<i>For Work In Restricted Working Space, Add</i>	9.23	
23 21 13 23-0292	EA	1" x 3/4", 150 LB, Black Malleable Iron Bushing	47.51	21.64
		<i>For Work In Restricted Working Space, Add</i>	9.73	
23 21 13 23-0293	EA	1-1/4" x 3/8", 150 LB, Black Malleable Iron Bushing	53.63	20.63
		<i>For Work In Restricted Working Space, Add</i>	9.30	
23 21 13 23-0294	EA	1-1/4" x 1/2", 150 LB, Black Malleable Iron Bushing	54.67	22.06
		<i>For Work In Restricted Working Space, Add</i>	9.91	
23 21 13 23-0295	EA	1-1/4" x 3/4", 150 LB, Black Malleable Iron Bushing	54.14	23.09
		<i>For Work In Restricted Working Space, Add</i>	10.40	
23 21 13 23-0296	EA	1-1/4" x 1", 150 LB, Black Malleable Iron Bushing	55.93	24.31
		<i>For Work In Restricted Working Space, Add</i>	10.94	
23 21 13 23-0297	EA	1-1/2" x 3/8", 150 LB, Black Malleable Iron Bushing	63.33	22.37
		<i>For Work In Restricted Working Space, Add</i>	10.04	
23 21 13 23-0298	EA	1-1/2" x 1/2", 150 LB, Black Malleable Iron Bushing	60.14	23.70
		<i>For Work In Restricted Working Space, Add</i>	10.65	
23 21 13 23-0299	EA	1-1/2" x 3/4", 150 LB, Black Malleable Iron Bushing	61.77	24.73
		<i>For Work In Restricted Working Space, Add</i>	11.14	
23 21 13 23-0300	EA	1-1/2" x 1", 150 LB, Black Malleable Iron Bushing	60.56	25.96
		<i>For Work In Restricted Working Space, Add</i>	11.68	
23 21 13 23-0301	EA	1-1/2" x 1-1/4", 150 LB, Black Malleable Iron Bushing	65.88	27.50
		<i>For Work In Restricted Working Space, Add</i>	12.35	
23 21 13 23-0302	EA	2" x 3/8", 150 LB, Black Malleable Iron Bushing	81.55	26.27
		<i>For Work In Restricted Working Space, Add</i>	11.81	
23 21 13 23-0303	EA	2" x 1/2", 150 LB, Black Malleable Iron Bushing	78.61	27.60
		<i>For Work In Restricted Working Space, Add</i>	12.43	
23 21 13 23-0304	EA	2" x 3/4", 150 LB, Black Malleable Iron Bushing	74.51	28.73
		<i>For Work In Restricted Working Space, Add</i>	12.92	
23 21 13 23-0305	EA	2" x 1", 150 LB, Black Malleable Iron Bushing	74.31	29.86
		<i>For Work In Restricted Working Space, Add</i>	13.45	
23 21 13 23-0306	EA	2" x 1-1/4", 150 LB, Black Malleable Iron Bushing	76.57	31.40
		<i>For Work In Restricted Working Space, Add</i>	14.13	
23 21 13 23-0307	EA	2" x 1-1/2", 150 LB, Black Malleable Iron Bushing	82.36	33.04
		<i>For Work In Restricted Working Space, Add</i>	14.87	
23 21 13 23-0308	EA	2-1/2" x 3/4", 150 LB, Black Malleable Iron Bushing	109.92	37.56
		<i>For Work In Restricted Working Space, Add</i>	16.91	
23 21 13 23-0309	EA	2-1/2" x 1", 150 LB, Black Malleable Iron Bushing	111.70	38.79
		<i>For Work In Restricted Working Space, Add</i>	17.44	
23 21 13 23-0310	EA	2-1/2" x 1-1/4", 150 LB, Black Malleable Iron Bushing	113.96	40.23
		<i>For Work In Restricted Working Space, Add</i>	18.12	
23 21 13 23-0311	EA	2-1/2" x 1-1/2", 150 LB, Black Malleable Iron Bushing	112.78	41.97
		<i>For Work In Restricted Working Space, Add</i>	18.86	
23 21 13 23-0312	EA	2-1/2" x 2", 150 LB, Black Malleable Iron Bushing	118.27	45.87
		<i>For Work In Restricted Working Space, Add</i>	20.63	
23 21 13 23-0313	EA	3" x 3/4", 150 LB, Black Malleable Iron Bushing	143.40	46.17
		<i>For Work In Restricted Working Space, Add</i>	20.80	
23 21 13 23-0314	EA	3" x 1", 150 LB, Black Malleable Iron Bushing	145.18	47.40
		<i>For Work In Restricted Working Space, Add</i>	21.33	
23 21 13 23-0315	EA	3" x 1-1/4", 150 LB, Black Malleable Iron Bushing	147.44	48.94
		<i>For Work In Restricted Working Space, Add</i>	22.01	
23 21 13 23-0316	EA	3" x 1-1/2", 150 LB, Black Malleable Iron Bushing	148.48	50.58
		<i>For Work In Restricted Working Space, Add</i>	22.75	
23 21 13 23-0317	EA	3" x 2", 150 LB, Black Malleable Iron Bushing	149.61	54.48
		<i>For Work In Restricted Working Space, Add</i>	24.52	
23 21 13 23-0318	EA	3" x 2-1/2", 150 LB, Black Malleable Iron Bushing	163.94	63.41
		<i>For Work In Restricted Working Space, Add</i>	28.51	
23 21 13 23-0319	EA	4" x 3/4", 150 LB, Black Malleable Iron Bushing	216.21	49.37
		<i>For Work In Restricted Working Space, Add</i>	22.24	
23 21 13 23-0320	EA	4" x 1", 150 LB, Black Malleable Iron Bushing	217.97	50.59
		<i>For Work In Restricted Working Space, Add</i>	22.76	
23 21 13 23-0321	EA	4" x 1-1/4", 150 LB, Black Malleable Iron Bushing	220.20	52.10
		<i>For Work In Restricted Working Space, Add</i>	23.43	
23 21 13 23-0322	EA	4" x 1-1/2", 150 LB, Black Malleable Iron Bushing	222.63	53.73
		<i>For Work In Restricted Working Space, Add</i>	24.16	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0323	EA		4" x 2", 150 LB, Black Malleable Iron Bushing.....	220.82	57.57
			For Work In Restricted Working Space, Add	25.91	
23 21 13 23-0324	EA		4" x 2-1/2", 150 LB, Black Malleable Iron Bushing.....	233.95	66.37
			For Work In Restricted Working Space, Add	29.85	
23 21 13 23-0325	EA		4" x 3", 150 LB, Black Malleable Iron Bushing.....	246.73	74.87
			For Work In Restricted Working Space, Add	33.68	
23 21 13 23-0326 Black Malleable Iron Square Head Plugs (23 21 13 23-0014)					
23 21 13 23-0327	EA		3/8", 150 LB, Black Malleable Iron Square Head Plug.....	16.87	6.06
			For Work In Restricted Working Space, Add	2.74	
23 21 13 23-0328	EA		1/2", 150 LB, Black Malleable Iron Square Head Plug.....	19.21	7.29
			For Work In Restricted Working Space, Add	3.28	
23 21 13 23-0329	EA		3/4", 150 LB, Black Malleable Iron Square Head Plug.....	20.52	8.21
			For Work In Restricted Working Space, Add	3.68	
23 21 13 23-0330	EA		1", 150 LB, Black Malleable Iron Square Head Plug.....	24.08	9.13
			For Work In Restricted Working Space, Add	4.10	
23 21 13 23-0331	EA		1-1/4", 150 LB, Black Malleable Iron Square Head Plug.....	28.60	10.36
			For Work In Restricted Working Space, Add	4.65	
23 21 13 23-0332	EA		1-1/2", 150 LB, Black Malleable Iron Square Head Plug.....	35.74	11.60
			For Work In Restricted Working Space, Add	5.24	
23 21 13 23-0333	EA		2", 150 LB, Black Malleable Iron Square Head Plug.....	48.17	14.77
			For Work In Restricted Working Space, Add	6.65	
23 21 13 23-0334	EA		2-1/2", 150 LB, Black Malleable Iron Square Head Plug.....	80.13	21.86
			For Work In Restricted Working Space, Add	9.85	
23 21 13 23-0335	EA		3", 150 LB, Black Malleable Iron Square Head Plug.....	108.15	28.83
			For Work In Restricted Working Space, Add	12.96	
23 21 13 23-0336	EA		4", 150 LB, Black Malleable Iron Square Head Plug.....	183.42	31.46
			For Work In Restricted Working Space, Add	14.16	
23 21 13 23-0337	EA		5", 150 LB, Black Malleable Iron Square Head Plug.....	341.84	32.88
			For Work In Restricted Working Space, Add	14.78	
23 21 13 23-0338	EA		6", 150 LB, Black Malleable Iron Square Head Plug.....	413.90	34.29
			For Work In Restricted Working Space, Add	15.45	
23 21 13 23-0339 125 LB Black Cast Iron Screwed Flanges (23 21 13 23-0014)					
Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.					
23 21 13 23-0340	EA		3/4", 125 LB, Black Cast Iron Flange.....	209.86	41.04
			For Work In Restricted Working Space, Add	18.47	
23 21 13 23-0341	EA		1", 125 LB, Black Cast Iron Flange.....	163.88	46.37
			For Work In Restricted Working Space, Add	20.87	
23 21 13 23-0342	EA		1-1/4", 125 LB, Black Cast Iron Flange.....	184.85	48.02
			For Work In Restricted Working Space, Add	21.60	
23 21 13 23-0343	EA		1-1/2", 125 LB, Black Cast Iron Flange.....	182.61	52.23
			For Work In Restricted Working Space, Add	23.50	
23 21 13 23-0344	EA		2", 125 LB, Black Cast Iron Flange.....	185.82	54.48
			For Work In Restricted Working Space, Add	24.53	
23 21 13 23-0345	EA		2-1/2", 125 LB, Black Cast Iron Flange.....	216.30	63.10
			For Work In Restricted Working Space, Add	28.37	
23 21 13 23-0346	EA		3", 125 LB, Black Cast Iron Flange.....	276.83	80.03
			For Work In Restricted Working Space, Add	36.00	
23 21 13 23-0347	EA		4", 125 LB, Black Cast Iron Flange.....	373.23	107.95
			For Work In Restricted Working Space, Add	48.56	
23 21 13 23-0348	EA		5", 125 LB, Black Cast Iron Flange.....	491.28	128.59
			For Work In Restricted Working Space, Add	57.81	
23 21 13 23-0349	EA		6", 125 LB, Black Cast Iron Flange.....	559.13	147.61
			For Work In Restricted Working Space, Add	66.40	
23 21 13 23-0350 150 LB, Black Malleable Iron Flanges (23 21 13 23-0014)					
Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.					
23 21 13 23-0351	EA		1/2", 150 LB, Black Malleable Iron Flange.....	89.02	37.45
			For Work In Restricted Working Space, Add	16.87	
23 21 13 23-0352	EA		3/4", 150 LB, Black Malleable Iron Flange.....	96.91	41.04
			For Work In Restricted Working Space, Add	18.47	
23 21 13 23-0353	EA		1", 150 LB, Black Malleable Iron Flange.....	115.48	46.37
			For Work In Restricted Working Space, Add	20.87	
23 21 13 23-0354	EA		1-1/4", 150 LB, Black Malleable Iron Flange.....	121.10	48.02
			For Work In Restricted Working Space, Add	21.60	
23 21 13 23-0355	EA		1-1/2", 150 LB, Black Malleable Iron Flange.....	131.89	52.23
			For Work In Restricted Working Space, Add	23.50	
23 21 13 23-0356	EA		2", 150 LB, Black Malleable Iron Flange.....	151.61	54.48
			For Work In Restricted Working Space, Add	24.52	
23 21 13 23-0357	EA		2-1/2", 150 LB, Black Malleable Iron Flange.....	204.11	63.10
			For Work In Restricted Working Space, Add	28.37	
23 21 13 23-0358	EA		3", 150 LB, Black Malleable Iron Flange.....	258.44	80.03
			For Work In Restricted Working Space, Add	35.99	
23 21 13 23-0359	EA		4", 150 LB, Black Malleable Iron Flange.....	397.03	107.95
			For Work In Restricted Working Space, Add	48.55	
23 21 13 23-0360 Cut And Thread Existing In-Place Black Steel Pipe (23 21 13 23-0014)					
Note: For use when connecting pipe to an existing in-place system.					

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0361	EA	1/2", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	33.43 10.03	
23 21 13 23-0362	EA	3/4", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	36.77 11.03	
23 21 13 23-0363	EA	1", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	40.12 12.04	
23 21 13 23-0364	EA	1-1/4", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	43.45 13.04	
23 21 13 23-0365	EA	1-1/2", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	45.68 13.70	
23 21 13 23-0366	EA	2", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	47.91 14.37	
23 21 13 23-0367	EA	2-1/2", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	50.14 15.04	
23 21 13 23-0368	EA	3", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	52.36 15.71	
23 21 13 23-0369	EA	4", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	54.60 16.38	
23 21 13 23-0370	EA	6", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	59.05 17.72	
23 21 13 23-0371	EA	8", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	63.50 19.05	
23 21 13 23-0372	EA	10", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	69.08 20.72	
23 21 13 23-0373	EA	12", Cut And Thread Existing In Place Black Steel Pipe..... <i>For Work In Restricted Working Space, Add</i>	73.53 22.06	
23 21 13 23-0374		Welded Black Steel Pipe (23 21 13 23)		
23 21 13 23-0375		Welded Plain End Black Steel Pipe Assemblies (23 21 13 23-0374)		
		Note: ASTM A-53 pipe and A-234 WPB fittings. Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available.		
23 21 13 23-0376	LF	3/4" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	29.12 5.71	7.82
23 21 13 23-0377	LF	1" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	33.05 6.40	8.34
23 21 13 23-0378	LF	1-1/4" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	41.25 7.34	8.86
23 21 13 23-0379	LF	1-1/2" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	45.82 7.67	8.86
23 21 13 23-0380	LF	2" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	52.70 8.88	8.86
23 21 13 23-0381	LF	2-1/2" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	60.97 10.30	8.86
23 21 13 23-0382	LF	3" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	76.72 10.87	8.64
23 21 13 23-0383	LF	4" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	108.39 13.81	11.13
23 21 13 23-0384	LF	6" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	156.78 15.90	16.59
23 21 13 23-0385	LF	8" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	236.81 23.59	20.60
23 21 13 23-0386	LF	10" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	321.77 28.13	25.76
23 21 13 23-0387	LF	12" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	411.51 32.51	31.12
23 21 13 23-0388	LF	14" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... <i>For Work In Restricted Working Space, Add</i>	424.67 36.26	40.59



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Hydronic Piping and Pumps			23 21	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0389	LF		16" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. <i>For Work In Restricted Working Space, Add</i>	488.41 40.52	51.51
23 21 13 23-0390	LF		18" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. <i>For Work In Restricted Working Space, Add</i>	634.46 44.46	63.77
23 21 13 23-0391	LF		20" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. <i>For Work In Restricted Working Space, Add</i>	784.40 50.90	78.81
23 21 13 23-0392	LF		24" Schedule 40 Welded Plain End Black Steel Pipe And Fitting Assembly..... Note: Includes all hangers and all fittings (couplings, elbows, tees and reducer fittings). All hangers are complete assemblies. Not for use where detail is available. <i>For Work In Restricted Working Space, Add</i>	980.40 55.96	89.32
23 21 13 23-0393			Welded Black Steel Pipe And Fittings (23 21 13 23-0374) Note: ASTM A-53 pipe and A-234 WPB fittings. Excludes hangers or fittings.		
23 21 13 23-0394			Welded Plain End (A-53) Black Steel Piping (23 21 13 23-0393)		
23 21 13 23-0395	LF		3/4" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	14.26 2.44 2.50	4.16
23 21 13 23-0396	LF		1" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	18.27 3.13 3.12	5.21
23 21 13 23-0397	LF		1-1/4" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	24.04 4.18 3.75	6.25
23 21 13 23-0398	LF		1-1/2" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	29.91 5.25 4.38	7.29
23 21 13 23-0399	LF		2" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	35.62 6.26 5.19	8.64
23 21 13 23-0400	LF		2-1/2" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	40.96 10.91 5.87	9.79
23 21 13 23-0401	LF		3" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	54.99 15.56 6.31	10.52
23 21 13 23-0402	LF		4" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	80.45 23.60 7.81	13.02
23 21 13 23-0403	LF		6" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	123.49 37.57 9.69	21.09
23 21 13 23-0404	LF		8" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Schedule 30 Pipe, Deduct</i> <i>For Work In Restricted Working Space, Add</i>	181.80 55.88 -31.93 13.29	22.15
23 21 13 23-0405	LF		10" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Schedule 30 Pipe, Deduct</i> <i>For Work In Restricted Working Space, Add</i>	247.99 77.46 -44.26 16.01	26.68
23 21 13 23-0406	LF		12" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Schedule 30 Pipe, Deduct</i> <i>For Work In Restricted Working Space, Add</i>	321.87 101.37 -57.93 19.35	32.25
23 21 13 23-0407	LF		14" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Schedule 30 Pipe, Deduct</i> <i>For Schedule 20 Pipe, Deduct</i> <i>For Work In Restricted Working Space, Add</i>	302.68 94.04 -53.74 -95.74 20.40	34.00
23 21 13 23-0408	LF		16" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Schedule 30 Pipe, Deduct</i> <i>For Schedule 20 Pipe, Deduct</i> <i>For Work In Restricted Working Space, Add</i>	335.47 104.62 -59.78 -106.44 21.94	36.57
23 21 13 23-0409	LF		18" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Schedule 30 Pipe, Deduct</i> <i>For Schedule 20 Pipe, Deduct</i> <i>For Work In Restricted Working Space, Add</i>	442.69 141.10 -80.63 -143.07 23.74	39.56
23 21 13 23-0410	LF		20" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	521.67 166.00 28.43	47.39
23 21 13 23-0411	LF		24" Schedule 40, Welded Plain End Black Steel Pipe..... <i>For Schedule 80 Pipe, Add</i> <i>For Work In Restricted Working Space, Add</i>	660.48 212.09 32.70	54.50
23 21 13 23-0412			Welded Plain End (A-106) Seamless Carbon Steel Piping (23 21 13 23-0393)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0413	LF	1/4" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	10.78	2.92
		<i>For Work In Restricted Working Space, Add</i>	1.75	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	2.71	
23 21 13 23-0414	LF	1/2" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	10.89	3.23
		<i>For Work In Restricted Working Space, Add</i>	1.91	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	2.63	
23 21 13 23-0415	LF	3/4" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	13.75	4.16
		<i>For Work In Restricted Working Space, Add</i>	2.50	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	3.25	
23 21 13 23-0416	LF	1" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	16.84	5.21
		<i>For Work In Restricted Working Space, Add</i>	3.12	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	3.94	
23 21 13 23-0417	LF	1-1/4" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	21.31	6.25
		<i>For Work In Restricted Working Space, Add</i>	3.75	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	5.13	
23 21 13 23-0418	LF	1-1/2" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	24.89	7.29
		<i>For Work In Restricted Working Space, Add</i>	4.38	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	6.00	
23 21 13 23-0419	LF	2" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	29.57	8.64
		<i>For Work In Restricted Working Space, Add</i>	5.19	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	7.14	
23 21 13 23-0420	LF	2-1/2" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe	39.22	9.79
		<i>For Work In Restricted Working Space, Add</i>	5.87	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	13.94	
23 21 13 23-0421	LF	3" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	45.08	10.52
		<i>For Work In Restricted Working Space, Add</i>	6.31	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	16.62	
23 21 13 23-0422	LF	4" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	56.04	13.02
		<i>For Work In Restricted Working Space, Add</i>	7.81	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	20.71	
23 21 13 23-0423	LF	6" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	88.17	21.14
		<i>For Work In Restricted Working Space, Add</i>	9.69	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	36.14	
23 21 13 23-0424	LF	8" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	128.40	22.15
		<i>For Work In Restricted Working Space, Add</i>	13.29	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	53.74	
23 21 13 23-0425	LF	10" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	173.31	26.68
		<i>For Work In Restricted Working Space, Add</i>	16.01	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	75.17	
23 21 13 23-0426	LF	12" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	211.34	32.25
		<i>For Work In Restricted Working Space, Add</i>	19.35	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	91.91	
23 21 13 23-0427	LF	14" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	248.59	34.00
		<i>For Work In Restricted Working Space, Add</i>	20.40	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	111.33	
23 21 13 23-0428	LF	16" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	287.47	36.57
		<i>For Work In Restricted Working Space, Add</i>	21.94	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	131.00	
23 21 13 23-0429	LF	18" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	349.52	39.56
		<i>For Work In Restricted Working Space, Add</i>	23.74	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	163.29	
23 21 13 23-0430	LF	20" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	421.24	47.39
		<i>For Work In Restricted Working Space, Add</i>	28.43	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	197.03	
23 21 13 23-0431	LF	24" Schedule 40, Welded Plain End (A-106) Seamless, Carbon Steel Pipe.....	531.95	54.50
		<i>For Work In Restricted Working Space, Add</i>	32.70	
		<i>For Schedule 80 (A-106) Carbon Steel Pipe, Add</i>	253.20	
23 21 13 23-0432 Welded Plain End Black Steel 90 Degree Elbows (23 21 13 23-0393)				
23 21 13 23-0433	EA	3/4" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow	118.80	65.31
		<i>For Schedule 80 Or Extra Heavy Fittings, Add</i>	25.36	
		<i>For Work In Restricted Working Space, Add</i>	29.36	
23 21 13 23-0434	EA	1" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow	123.94	68.72
		<i>For Schedule 80 Or Extra Heavy Fittings, Add</i>	26.37	
		<i>For Work In Restricted Working Space, Add</i>	30.90	
23 21 13 23-0435	EA	1-1/4" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow	138.36	78.30
		<i>For Schedule 80 Or Extra Heavy Fittings, Add</i>	29.18	
		<i>For Work In Restricted Working Space, Add</i>	35.23	
23 21 13 23-0436	EA	1-1/2" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow	147.63	84.48
		<i>For Schedule 80 Or Extra Heavy Fittings, Add</i>	30.99	
		<i>For Work In Restricted Working Space, Add</i>	38.01	
23 21 13 23-0437	EA	2" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow	185.73	109.92
		<i>For Schedule 80 Or Extra Heavy Fittings, Add</i>	38.42	
		<i>For Work In Restricted Working Space, Add</i>	49.44	
23 21 13 23-0438	EA	2-1/2" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow	233.91	137.43
		<i>For Schedule 80 Or Extra Heavy Fittings, Add</i>	48.54	
		<i>For Work In Restricted Working Space, Add</i>	61.80	
23 21 13 23-0439	EA	3" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow	244.40	140.83
		<i>For Schedule 80 Or Extra Heavy Fittings, Add</i>	51.16	
		<i>For Work In Restricted Working Space, Add</i>	63.32	
23 21 13 23-0440	EA	4" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow	419.96	243.31
		<i>For Schedule 80 Or Extra Heavy Fittings, Add</i>	87.68	
		<i>For Work In Restricted Working Space, Add</i>	109.44	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0441	EA	6" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	737.68 158.09 180.62	401.53
23 21 13 23-0442	EA	8" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,088.73 238.73 251.11	558.27
23 21 13 23-0443	EA	10" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,418.75 325.18 286.99	638.12
23 21 13 23-0444	EA	12" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,921.75 445.10 375.50	834.89
23 21 13 23-0445	EA	14" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,386.50 560.80 443.86	986.84
23 21 13 23-0446	EA	16" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,989.09 709.32 518.30	1,152.40
23 21 13 23-0447	EA	18" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,524.25 855.00 577.94	1,284.98
23 21 13 23-0448	EA	20" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,508.53 1,125.75 648.04	1,440.76
23 21 13 23-0449	EA	24" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	5,301.26 1,356.00 669.64	1,488.86
23 21 13 23-0450		Welded Plain End Black Steel Reducing 90 Degree Elbows (23 21 13 23-0393)		
23 21 13 23-0451	EA	4" x 3" 90 Standard Weight, Welded Plain End Black Steel Reducing 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	592.36 139.33 109.64	243.73
23 21 13 23-0452	EA	6" x 4" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,039.00 249.21 178.56	396.95
23 21 13 23-0453	EA	6" x 3" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,115.09 272.03 178.56	396.95
23 21 13 23-0454	EA	8" x 6" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,773.23 444.08 251.11	558.27
23 21 13 23-0455	EA	8" x 4" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,954.66 498.51 251.11	558.27
23 21 13 23-0456	EA	10" x 8" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,453.06 635.47 286.99	638.12
23 21 13 23-0457	EA	10" x 6" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,453.06 635.47 286.99	638.12
23 21 13 23-0458	EA	12" x 10" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,053.84 1,082.22 382.65	850.75
23 21 13 23-0459	EA	12" x 8" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,053.84 1,082.22 382.65	850.75
23 21 13 23-0460	EA	12" x 6" Standard Weight, Welded Plain End Black Steel 90 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,547.35 1,230.28 382.65	850.75
23 21 13 23-0461		Welded Plain End Black Steel 45 Degree Elbows (23 21 13 23-0393)		
23 21 13 23-0462	EA	3/4" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	105.14 22.25 26.56	59.05
23 21 13 23-0463	EA	1" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	108.27 22.86 27.50	61.14
23 21 13 23-0464	EA	1-1/4" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	121.81 25.50 31.56	70.20
23 21 13 23-0465	EA	1-1/2" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	130.14 27.12 34.06	75.73
23 21 13 23-0466	EA	2" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	163.48 33.62 44.06	97.90
23 21 13 23-0467	EA	2-1/2" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	203.70 41.75 55.31	123.01
23 21 13 23-0468	EA	3" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	235.38 48.46 63.31	140.71

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0469 EA 4" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	404.97 83.20 109.41	243.21
23 21 13 23-0470 EA 6" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	700.40 146.98 180.41	401.12
23 21 13 23-0471 EA 8" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,020.81 218.35 251.11	558.27
23 21 13 23-0472 EA 10" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,294.05 287.77 286.99	638.12
23 21 13 23-0473 EA 12" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,738.59 390.40 374.80	833.34
23 21 13 23-0474 EA 14" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,143.72 487.56 444.45	988.18
23 21 13 23-0475 EA 16" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,632.31 608.48 517.76	1,151.16
23 21 13 23-0476 EA 18" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,090.87 725.21 577.28	1,283.44
23 21 13 23-0477 EA 20" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,874.81 935.63 648.04	1,440.76
23 21 13 23-0478 EA 24" Standard Weight, Welded Plain End Black Steel 45 Degree Elbow For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,473.05 1,107.54 669.64	1,488.86
23 21 13 23-0479 Welded Plain End Black Steel Tee (23 21 13 23-0393)		
23 21 13 23-0480 EA 3/4" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	216.83 47.55 50.00	111.14
23 21 13 23-0481 EA 1" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	216.77 47.54 49.98	111.14
23 21 13 23-0482 EA 1-1/4" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	245.80 54.28 55.60	123.64
23 21 13 23-0483 EA 1-1/2" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	268.79 58.76 62.50	138.94
23 21 13 23-0484 EA 2" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	331.60 70.28 83.43	185.51
23 21 13 23-0485 EA 2-1/2" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	378.94 80.87 93.75	208.42
23 21 13 23-0486 EA 3" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	452.70 96.00 113.74	253.10
23 21 13 23-0487 EA 4" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	650.55 137.60 164.46	365.71
23 21 13 23-0488 EA 6" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,092.00 232.50 271.72	604.12
23 21 13 23-0489 EA 8" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	1,620.39 352.19 382.65	850.75
23 21 13 23-0490 EA 10" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,066.35 463.66 446.42	992.51
23 21 13 23-0491 EA 12" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,792.75 636.93 573.98	1,276.13
23 21 13 23-0492 EA 14" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,646.17 859.48 669.64	1,488.86
23 21 13 23-0493 EA 16" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,388.04 1,035.16 803.57	1,786.59
23 21 13 23-0494 EA 18" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	5,768.57 1,418.07 892.85	1,985.12
23 21 13 23-0495 EA 20" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	7,659.29 1,946.23 1,004.46	2,233.30
23 21 13 23-0496 EA 24" Standard Weight, Welded Plain End Black Steel Tee For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	8,864.12 2,280.63 1,081.72	2,405.08



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Hydronic Piping and Pumps			23 21	

MINOR		DESCRIPTION	TOTAL DIRECT		DEMOLITION
CSI	UOM		UNIT COST	UNIT COST	
23 21 13 23-0497 Welded Plain End Black Steel Reducing Tees (23 21 13 23-0393)					
23 21 13 23-0498	EA	3/4" Standard Weight, Welded Plain End Black Steel Reducing Tee	211.62		107.70
		For Schedule 80 Or Extra Heavy Fittings, Add	46.53		
		For Work In Restricted Working Space, Add	48.44		
23 21 13 23-0499	EA	1" Standard Weight, Welded Plain End Black Steel Reducing Tee	216.77		111.14
		For Schedule 80 Or Extra Heavy Fittings, Add	47.54		
		For Work In Restricted Working Space, Add	49.98		
23 21 13 23-0500	EA	1-1/4" Standard Weight, Welded Plain End Black Steel Reducing Tee	242.60		123.64
		For Schedule 80 Or Extra Heavy Fittings, Add	53.32		
		For Work In Restricted Working Space, Add	55.60		
23 21 13 23-0501	EA	1-1/2" Standard Weight, Welded Plain End Black Steel Reducing Tee	265.59		138.94
		For Schedule 80 Or Extra Heavy Fittings, Add	57.80		
		For Work In Restricted Working Space, Add	62.50		
23 21 13 23-0502	EA	2" Standard Weight, Welded Plain End Black Steel Reducing Tee	338.82		185.51
		For Schedule 80 Or Extra Heavy Fittings, Add	72.43		
		For Work In Restricted Working Space, Add	83.46		
23 21 13 23-0503	EA	2-1/2" Standard Weight, Welded Plain End Black Steel Reducing Tee	379.07		208.52
		For Schedule 80 Or Extra Heavy Fittings, Add	80.90		
		For Work In Restricted Working Space, Add	93.78		
23 21 13 23-0504	EA	3" Standard Weight, Welded Plain End Black Steel Reducing Tee	453.04		253.10
		For Schedule 80 Or Extra Heavy Fittings, Add	96.10		
		For Work In Restricted Working Space, Add	113.74		
23 21 13 23-0505	EA	4" Standard Weight, Welded Plain End Black Steel Reducing Tee	651.02		365.71
		For Schedule 80 Or Extra Heavy Fittings, Add	137.74		
		For Work In Restricted Working Space, Add	164.46		
23 21 13 23-0506	EA	6" Standard Weight, Welded Plain End Black Steel Reducing Tee	1,092.81		604.12
		For Schedule 80 Or Extra Heavy Fittings, Add	232.74		
		For Work In Restricted Working Space, Add	271.72		
23 21 13 23-0507	EA	8" Standard Weight, Welded Plain End Black Steel Reducing Tee	1,621.94		850.75
		For Schedule 80 Or Extra Heavy Fittings, Add	352.65		
		For Work In Restricted Working Space, Add	382.65		
23 21 13 23-0508	EA	10" Standard Weight, Welded Plain End Black Steel Reducing Tee	2,068.99		992.51
		For Schedule 80 Or Extra Heavy Fittings, Add	464.45		
		For Work In Restricted Working Space, Add	446.42		
23 21 13 23-0509	EA	12" Standard Weight, Welded Plain End Black Steel Reducing Tee	2,796.74		1,276.13
		For Schedule 80 Or Extra Heavy Fittings, Add	638.13		
		For Work In Restricted Working Space, Add	573.98		
23 21 13 23-0510	EA	14" Standard Weight, Welded Plain End Black Steel Reducing Tee	3,652.60		1,488.86
		For Schedule 80 Or Extra Heavy Fittings, Add	861.41		
		For Work In Restricted Working Space, Add	669.64		
23 21 13 23-0511	EA	16" Standard Weight, Welded Plain End Black Steel Reducing Tee	4,395.82		1,786.59
		For Schedule 80 Or Extra Heavy Fittings, Add	1,037.50		
		For Work In Restricted Working Space, Add	803.57		
23 21 13 23-0512	EA	18" Standard Weight, Welded Plain End Black Steel Reducing Tee	5,781.29		1,985.12
		For Schedule 80 Or Extra Heavy Fittings, Add	1,421.89		
		For Work In Restricted Working Space, Add	892.85		
23 21 13 23-0513	EA	20" Standard Weight, Welded Plain End Black Steel Reducing Tee	7,782.87		2,233.30
		For Schedule 80 Or Extra Heavy Fittings, Add	1,983.30		
		For Work In Restricted Working Space, Add	1,004.46		
23 21 13 23-0514	EA	24" Standard Weight, Welded Plain End Black Steel Reducing Tee	9,416.10		2,405.08
		For Schedule 80 Or Extra Heavy Fittings, Add	2,446.23		
		For Work In Restricted Working Space, Add	1,081.72		
23 21 13 23-0515 Welded Plain End Black Steel Eccentric Reducers (23 21 13 23-0393)					
23 21 13 23-0516	EA	1" x 3/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	160.71		67.74
		For Schedule 80 Or Extra Heavy Fittings, Add	37.55		
		For Work In Restricted Working Space, Add	30.47		
23 21 13 23-0517	EA	1-1/4" x 1" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	170.59		74.33
		For Schedule 80 Or Extra Heavy Fittings, Add	39.48		
		For Work In Restricted Working Space, Add	33.43		
23 21 13 23-0518	EA	1-1/4" x 3/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	168.00		72.60
		For Schedule 80 Or Extra Heavy Fittings, Add	38.97		
		For Work In Restricted Working Space, Add	32.65		
23 21 13 23-0519	EA	1-1/2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	182.57		82.31
		For Schedule 80 Or Extra Heavy Fittings, Add	41.81		
		For Work In Restricted Working Space, Add	37.02		
23 21 13 23-0520	EA	1-1/2" x 1" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	175.27		77.46
		For Schedule 80 Or Extra Heavy Fittings, Add	40.39		
		For Work In Restricted Working Space, Add	34.83		
23 21 13 23-0521	EA	1-1/2" x 3/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	172.68		75.73
		For Schedule 80 Or Extra Heavy Fittings, Add	39.88		
		For Work In Restricted Working Space, Add	34.06		
23 21 13 23-0522	EA	2" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	183.20		98.28
		For Schedule 80 Or Extra Heavy Fittings, Add	39.49		
		For Work In Restricted Working Space, Add	44.21		
23 21 13 23-0523	EA	2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	200.72		95.16
		For Schedule 80 Or Extra Heavy Fittings, Add	45.23		
		For Work In Restricted Working Space, Add	42.80		
23 21 13 23-0524	EA	2" x 1" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	193.42		90.30
		For Schedule 80 Or Extra Heavy Fittings, Add	43.81		
		For Work In Restricted Working Space, Add	40.61		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13	23-0525	EA	2-1/2" x 2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	229.02	125.03
			For Schedule 80 Or Extra Heavy Fittings, Add	49.02	
			For Work In Restricted Working Space, Add	56.24	
23 21 13	23-0526	EA	2-1/2" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	216.92	112.17
			For Schedule 80 Or Extra Heavy Fittings, Add	47.42	
			For Work In Restricted Working Space, Add	50.46	
23 21 13	23-0527	EA	2-1/2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	251.64	109.05
			For Schedule 80 Or Extra Heavy Fittings, Add	58.33	
			For Work In Restricted Working Space, Add	49.05	
23 21 13	23-0528	EA	3" x 2-1/2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	255.94	140.30
			For Schedule 80 Or Extra Heavy Fittings, Add	54.69	
			For Work In Restricted Working Space, Add	63.13	
23 21 13	23-0529	EA	3" x 2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	259.16	140.30
			For Schedule 80 Or Extra Heavy Fittings, Add	55.65	
			For Work In Restricted Working Space, Add	63.13	
23 21 13	23-0530	EA	3" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	265.97	140.30
			For Schedule 80 Or Extra Heavy Fittings, Add	57.70	
			For Work In Restricted Working Space, Add	63.13	
23 21 13	23-0531	EA	4" x 3" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	424.95	243.73
			For Schedule 80 Or Extra Heavy Fittings, Add	89.17	
			For Work In Restricted Working Space, Add	109.64	
23 21 13	23-0532	EA	4" x 2-1/2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	428.17	243.73
			For Schedule 80 Or Extra Heavy Fittings, Add	90.08	
			For Work In Restricted Working Space, Add	109.64	
23 21 13	23-0533	EA	4" x 2" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	437.85	243.73
			For Schedule 80 Or Extra Heavy Fittings, Add	92.98	
			For Work In Restricted Working Space, Add	109.64	
23 21 13	23-0534	EA	6" x 4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	717.74	396.95
			For Schedule 80 Or Extra Heavy Fittings, Add	152.83	
			For Work In Restricted Working Space, Add	178.56	
23 21 13	23-0535	EA	6" x 3" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	787.26	396.95
			For Schedule 80 Or Extra Heavy Fittings, Add	173.68	
			For Work In Restricted Working Space, Add	178.56	
23 21 13	23-0536	EA	8" x 6" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,061.96	604.12
			For Schedule 80 Or Extra Heavy Fittings, Add	223.49	
			For Work In Restricted Working Space, Add	271.72	
23 21 13	23-0537	EA	8" x 4" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,191.31	604.12
			For Schedule 80 Or Extra Heavy Fittings, Add	262.29	
			For Work In Restricted Working Space, Add	271.72	
23 21 13	23-0538	EA	10" x 8" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,246.18	694.74
			For Schedule 80 Or Extra Heavy Fittings, Add	264.49	
			For Work In Restricted Working Space, Add	312.47	
23 21 13	23-0539	EA	10" x 6" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,401.69	694.74
			For Schedule 80 Or Extra Heavy Fittings, Add	311.14	
			For Work In Restricted Working Space, Add	312.47	
23 21 13	23-0540	EA	10" x 4" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	1,606.29	694.74
			For Schedule 80 Or Extra Heavy Fittings, Add	372.52	
			For Concentric Reducers, Deduct	-180.71	
			For Work In Restricted Working Space, Add	312.47	
23 21 13	23-0541	EA	12" x 10" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,592.33	849.10
			For Schedule 80 Or Extra Heavy Fittings, Add	344.03	
			For Work In Restricted Working Space, Add	381.92	
23 21 13	23-0542	EA	12" x 8" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	1,774.00	849.10
			For Schedule 80 Or Extra Heavy Fittings, Add	398.53	
			For Work In Restricted Working Space, Add	381.92	
23 21 13	23-0543	EA	12" x 6" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	2,081.09	849.10
			For Schedule 80 Or Extra Heavy Fittings, Add	490.65	
			For Concentric Reducers, Deduct	-258.56	
			For Work In Restricted Working Space, Add	381.92	
23 21 13	23-0544	EA	12" x 4" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	1,587.19	849.10
			For Schedule 80 Or Extra Heavy Fittings, Add	342.48	
			For Concentric Reducers, Deduct	-100.52	
			For Work In Restricted Working Space, Add	381.92	
23 21 13	23-0545	EA	14" x 12" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	2,048.49	992.51
			For Schedule 80 Or Extra Heavy Fittings, Add	458.30	
			For Work In Restricted Working Space, Add	446.42	
23 21 13	23-0546	EA	14" x 10" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	2,144.16	992.51
			For Schedule 80 Or Extra Heavy Fittings, Add	487.00	
			For Work In Restricted Working Space, Add	446.42	
23 21 13	23-0547	EA	14" x 8" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	3,097.96	992.51
			For Schedule 80 Or Extra Heavy Fittings, Add	773.14	
			For Work In Restricted Working Space, Add	446.42	
23 21 13	23-0548	EA	16" x 14" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	2,531.19	1,116.64
			For Schedule 80 Or Extra Heavy Fittings, Add	583.58	
			For Work In Restricted Working Space, Add	502.23	
23 21 13	23-0549	EA	16" x 12" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	2,812.83	1,116.64
			For Schedule 80 Or Extra Heavy Fittings, Add	668.07	
			For Work In Restricted Working Space, Add	502.23	
23 21 13	23-0550	EA	16" x 10" Standard Weight, Welded Plain End Black Steel Eccentric Reducer	2,922.47	1,116.64
			For Schedule 80 Or Extra Heavy Fittings, Add	700.96	
			For Concentric Reducers, Deduct	-399.48	
			For Work In Restricted Working Space, Add	502.23	
23 21 13	23-0551	EA	16" x 8" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer	4,157.59	1,116.64
			For Schedule 80 Or Extra Heavy Fittings, Add	1,071.50	
			For Work In Restricted Working Space, Add	502.23	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0552	EA	16" x 6" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,772.20 1,255.88 502.23	1,116.64
23 21 13 23-0553	EA	18" x 16" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,457.23 836.28 573.98	1,276.13
23 21 13 23-0554	EA	18" x 14" Standard Weight, Welded Plain End Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Concentric Reducers, Deduct For Work In Restricted Working Space, Add	2,190.10 456.14 -88.59 573.98	1,276.13
23 21 13 23-0555	EA	18" x 12" Standard Weight, Welded Plain End Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Concentric Reducers, Deduct For Work In Restricted Working Space, Add	3,605.22 880.67 -541.43 573.98	1,276.13
23 21 13 23-0556	EA	18" x 10" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,823.43 946.14 573.98	1,276.13
23 21 13 23-0557	EA	18" x 8" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	5,668.21 1,499.57 573.98	1,276.13
23 21 13 23-0558	EA	20" x 18" Standard Weight, Welded Plain End Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Concentric Reducers, Deduct For Work In Restricted Working Space, Add	4,099.33 1,002.99 -620.55 648.04	1,440.76
23 21 13 23-0559	EA	20" x 16" Standard Weight, Welded Plain End Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Concentric Reducers, Deduct For Work In Restricted Working Space, Add	4,094.32 1,001.48 -618.94 648.04	1,440.76
23 21 13 23-0560	EA	20" x 14" Standard Weight, Welded Plain End Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Concentric Reducers, Deduct For Work In Restricted Working Space, Add	6,534.81 1,733.63 -1,399.90 648.04	1,440.76
23 21 13 23-0561	EA	20" x 12" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	7,513.71 2,027.30 648.03	1,440.76
23 21 13 23-0562	EA	20" x 10" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	8,982.12 2,467.82 648.03	1,440.76
23 21 13 23-0563	EA	24" x 20" Standard Weight, Welded Plain End Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Concentric Reducers, Deduct For Work In Restricted Working Space, Add	4,774.75 1,198.05 -813.64 669.64	1,488.86
23 21 13 23-0564	EA	24" x 18" Standard Weight, Welded Plain End Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Concentric Reducers, Deduct For Work In Restricted Working Space, Add	5,070.61 1,286.81 -908.31 669.64	1,488.86
23 21 13 23-0565	EA	24" x 16" Standard Weight, Welded Plain End Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Concentric Reducers, Deduct For Work In Restricted Working Space, Add	6,445.21 1,699.19 -1,348.19 669.64	1,488.86
23 21 13 23-0566	EA	24" x 14" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	9,003.23 2,466.60 669.64	1,488.86
23 21 13 23-0567	EA	24" x 12" Standard Weight, Welded Plain End, Black Steel Eccentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	10,921.28 3,042.01 669.64	1,488.86
23 21 13 23-0568		Welded Plain End Black Steel Concentric Reducers (23 21 13 23-0393)		
23 21 13 23-0569	EA	1" x 3/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	145.22 32.90 30.47	67.74
23 21 13 23-0570	EA	1-1/4" x 1" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	155.10 34.83 33.43	74.33
23 21 13 23-0571	EA	1-1/4" x 3/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	152.51 34.32 32.65	72.60
23 21 13 23-0572	EA	1-1/2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	167.08 37.17 37.02	82.31
23 21 13 23-0573	EA	1-1/2" x 1" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	159.78 35.74 34.83	77.46
23 21 13 23-0574	EA	1-1/2" x 3/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	157.19 35.24 34.06	75.73
23 21 13 23-0575	EA	2" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	175.30 37.12 44.21	98.28
23 21 13 23-0576	EA	2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	170.62 36.20 42.80	95.16

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0577	EA	2" x 1" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	174.08	90.30
		For Schedule 80 Or Extra Heavy Fittings, Add	38.01	
		For Work In Restricted Working Space, Add	40.61	
23 21 13 23-0578	EA	2-1/2" x 2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	223.29	125.03
		For Schedule 80 Or Extra Heavy Fittings, Add	47.30	
		For Work In Restricted Working Space, Add	56.24	
23 21 13 23-0579	EA	2-1/2" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	213.70	112.17
		For Schedule 80 Or Extra Heavy Fittings, Add	46.45	
		For Work In Restricted Working Space, Add	50.46	
23 21 13 23-0580	EA	2-1/2" x 1-1/4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	224.40	109.05
		For Schedule 80 Or Extra Heavy Fittings, Add	50.15	
		For Work In Restricted Working Space, Add	49.05	
23 21 13 23-0581	EA	3" x 2-1/2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	239.46	140.30
		For Schedule 80 Or Extra Heavy Fittings, Add	49.74	
		For Work In Restricted Working Space, Add	63.13	
23 21 13 23-0582	EA	3" x 2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	241.61	140.30
		For Schedule 80 Or Extra Heavy Fittings, Add	50.39	
		For Work In Restricted Working Space, Add	63.13	
23 21 13 23-0583	EA	3" x 1-1/2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	246.27	140.30
		For Schedule 80 Or Extra Heavy Fittings, Add	51.79	
		For Work In Restricted Working Space, Add	63.13	
23 21 13 23-0584	EA	4" x 3" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	402.74	243.73
		For Schedule 80 Or Extra Heavy Fittings, Add	82.45	
		For Work In Restricted Working Space, Add	109.64	
23 21 13 23-0585	EA	4" x 2-1/2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	410.98	243.73
		For Schedule 80 Or Extra Heavy Fittings, Add	84.92	
		For Work In Restricted Working Space, Add	109.64	
23 21 13 23-0586	EA	4" x 2" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	410.98	243.73
		For Schedule 80 Or Extra Heavy Fittings, Add	84.92	
		For Work In Restricted Working Space, Add	109.64	
23 21 13 23-0587	EA	6" x 4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	673.33	396.95
		For Schedule 80 Or Extra Heavy Fittings, Add	139.50	
		For Work In Restricted Working Space, Add	178.56	
23 21 13 23-0588	EA	6" x 3" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	689.80	396.95
		For Schedule 80 Or Extra Heavy Fittings, Add	144.44	
		For Work In Restricted Working Space, Add	178.56	
23 21 13 23-0589	EA	8" x 6" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,008.21	604.12
		For Schedule 80 Or Extra Heavy Fittings, Add	207.36	
		For Work In Restricted Working Space, Add	271.72	
23 21 13 23-0590	EA	8" x 4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,037.60	604.12
		For Schedule 80 Or Extra Heavy Fittings, Add	216.18	
		For Work In Restricted Working Space, Add	271.72	
23 21 13 23-0591	EA	10" x 8" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,240.45	694.74
		For Schedule 80 Or Extra Heavy Fittings, Add	262.77	
		For Work In Restricted Working Space, Add	312.47	
23 21 13 23-0592	EA	10" x 6" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,228.27	694.74
		For Schedule 80 Or Extra Heavy Fittings, Add	259.12	
		For Work In Restricted Working Space, Add	312.47	
23 21 13 23-0593	EA	10" x 4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,381.63	694.74
		For Schedule 80 Or Extra Heavy Fittings, Add	305.12	
		For Work In Restricted Working Space, Add	312.47	
23 21 13 23-0594	EA	12" x 10" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,518.88	849.10
		For Schedule 80 Or Extra Heavy Fittings, Add	321.99	
		For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0595	EA	12" x 8" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,555.70	849.10
		For Schedule 80 Or Extra Heavy Fittings, Add	333.04	
		For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0596	EA	12" x 6" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,569.04	849.10
		For Schedule 80 Or Extra Heavy Fittings, Add	337.04	
		For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0597	EA	12" x 4" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,959.96	849.10
		For Schedule 80 Or Extra Heavy Fittings, Add	454.32	
		For Work In Restricted Working Space, Add	381.92	
23 21 13 23-0598	EA	14" x 12" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,857.86	992.51
		For Schedule 80 Or Extra Heavy Fittings, Add	401.11	
		For Work In Restricted Working Space, Add	446.42	
23 21 13 23-0599	EA	14" x 10" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	1,994.38	992.51
		For Schedule 80 Or Extra Heavy Fittings, Add	442.07	
		For Work In Restricted Working Space, Add	446.42	
23 21 13 23-0600	EA	14" x 8" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,112.98	992.51
		For Schedule 80 Or Extra Heavy Fittings, Add	477.65	
		For Work In Restricted Working Space, Add	446.42	
23 21 13 23-0601	EA	14" x 6" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,571.36	992.51
		For Schedule 80 Or Extra Heavy Fittings, Add	615.16	
		For Work In Restricted Working Space, Add	446.42	
23 21 13 23-0602	EA	16" x 14" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,321.22	1,116.64
		For Schedule 80 Or Extra Heavy Fittings, Add	520.59	
		For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0603	EA	16" x 12" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,321.22	1,116.64
		For Schedule 80 Or Extra Heavy Fittings, Add	520.59	
		For Work In Restricted Working Space, Add	502.23	
23 21 13 23-0604	EA	16" x 10" Standard Weight, Welded Plain End, Black Steel Concentric Reducer	2,389.30	1,116.64
		For Schedule 80 Or Extra Heavy Fittings, Add	541.01	
		For Work In Restricted Working Space, Add	502.23	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0605	EA		16" x 8" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,615.39 608.84 502.23	1,116.64
23 21 13 23-0606	EA		16" x 6" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,551.76 889.75 502.23	1,116.64
23 21 13 23-0607	EA		18" x 16" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,620.21 885.17 573.98	1,276.13
23 21 13 23-0608	EA		18" x 14" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,794.71 637.52 573.98	1,276.13
23 21 13 23-0609	EA		18" x 12" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	2,867.81 659.45 573.98	1,276.13
23 21 13 23-0610	EA		18" x 10" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,096.66 719.11 573.98	1,276.13
23 21 13 23-0611	EA		18" x 8" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	5,351.94 1,404.69 573.98	1,276.13
23 21 13 23-0612	EA		20" x 18" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,373.37 785.20 648.03	1,440.76
23 21 13 23-0613	EA		20" x 16" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,373.37 785.20 648.03	1,440.76
23 21 13 23-0614	EA		20" x 14" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,423.18 800.14 648.03	1,440.76
23 21 13 23-0615	EA		20" x 12" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,718.07 888.61 648.03	1,440.76
23 21 13 23-0616	EA		20" x 10" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	4,231.17 1,042.54 648.03	1,440.76
23 21 13 23-0617	EA		24" x 20" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,604.49 846.97 669.64	1,488.86
23 21 13 23-0618	EA		24" x 18" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,635.65 856.32 669.64	1,488.86
23 21 13 23-0619	EA		24" x 16" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	3,696.56 874.59 669.64	1,488.86
23 21 13 23-0620	EA		24" x 14" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	5,106.90 1,297.70 669.64	1,488.86
23 21 13 23-0621	EA		24" x 12" Standard Weight, Welded Plain End, Black Steel Concentric Reducer For Schedule 80 Or Extra Heavy Fittings, Add For Work In Restricted Working Space, Add	5,385.31 1,381.22 669.64	1,488.86
23 21 13 23-0622			Welded Plain End Black Steel Caps (23 21 13 23-0393)		
23 21 13 23-0623	EA		1" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	62.71 12.30 15.62	34.79
23 21 13 23-0624	EA		1-1/4" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	68.58 13.41 17.18	38.23
23 21 13 23-0625	EA		1-1/2" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	71.33 13.98 17.81	39.58
23 21 13 23-0626	EA		2" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	88.61 17.08 22.82	50.73
23 21 13 23-0627	EA		2-1/2" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	104.82 19.99 27.50	61.14
23 21 13 23-0628	EA		3" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	123.03 23.69 31.73	70.52
23 21 13 23-0629	EA		4" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	205.73 38.88 54.82	121.86
23 21 13 23-0630	EA		6" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	345.57 65.93 90.57	201.34
23 21 13 23-0631	EA		8" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	488.67 93.71 126.94	282.27
23 21 13 23-0632	EA		10" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	649.12 127.97 160.25	356.33

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0633 EA 12" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	766.67 152.14 186.88	415.48
23 21 13 23-0634 EA 14" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	1,014.27 211.27 223.22	496.26
23 21 13 23-0635 EA 16" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	1,177.93 245.37 259.22	576.30
23 21 13 23-0636 EA 18" Standard Weight, Welded Plain End Black Steel Cap For Schedule 80 Fittings, Add For Work In Restricted Working Space, Add	1,317.63 275.71 286.99	638.12
23 21 13 23-0637 150 LB, Welded Plain End Black Steel Neck Flanges (23 21 13 23-0393) Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.		
23 21 13 23-0638 EA 2", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	153.75 37.56 35.33	78.54
23 21 13 23-0639 EA 2-1/2", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	182.92 40.63 44.08	98.02
23 21 13 23-0640 EA 3", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	204.05 42.88 50.40	112.07
23 21 13 23-0641 EA 4", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	267.54 55.41 66.49	147.80
23 21 13 23-0642 EA 6", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	406.66 84.74 100.80	224.15
23 21 13 23-0643 EA 8", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	472.63 115.47 108.59	241.48
23 21 13 23-0644 EA 10", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	615.68 160.85 136.20	302.78
23 21 13 23-0645 EA 12", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	750.86 219.11 154.53	343.58
23 21 13 23-0646 EA 14", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	980.81 315.93 186.88	415.48
23 21 13 23-0647 EA 16", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	1,283.09 467.42 217.18	482.86
23 21 13 23-0648 EA 18", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	1,587.94 628.61 243.50	541.37
23 21 13 23-0649 EA 20", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	2,013.39 796.40 309.06	687.15
23 21 13 23-0650 EA 24", 150 LB, Welded Plain End Black Steel Neck Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	2,283.56 934.44 334.82	744.43
23 21 13 23-0651 150 LB, Welded Black Steel Slip-On Flanges (23 21 13 23-0393) Note: Excludes bolt and gasket sets See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.		
23 21 13 23-0652 EA 2", 150 LB, Welded Black Steel Slip-On Flanges For 300 LB Rating, Add For Work In Restricted Working Space, Add	118.53 32.15 28.12	78.54
23 21 13 23-0653 EA 2-1/2", 150 LB, Welded Black Steel Slip-On Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	146.41 40.68 34.37	98.02
23 21 13 23-0654 EA 3", 150 LB, Welded Black Steel Slip-On Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	172.86 47.93 40.62	112.07
23 21 13 23-0655 EA 4", 150 LB, Welded Black Steel Slip-On Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	228.18 64.59 53.12	147.80
23 21 13 23-0656 EA 6", 150 LB, Welded Black Steel Slip-On Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	339.06 98.14 78.12	224.15
23 21 13 23-0657 EA 8", 150 LB, Welded Black Steel Slip-On Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	449.34 142.32 98.90	241.48
23 21 13 23-0658 EA 10", 150 LB, Welded Black Steel Slip-On Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	618.68 229.21 123.62	302.78
23 21 13 23-0659 EA 12", 150 LB, Welded Black Steel Slip-On Flange For 300 LB Rating, Add For Work In Restricted Working Space, Add	820.47 345.29 148.35	343.58



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Hydronic Piping and Pumps			23 21	

MINOR				TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	
23 21 13 23-0660	EA	14", 150 LB, Welded Black Steel Slip-On Flange	1,053.16		415.48
		For 300 LB Rating, Add	489.19		
		For Work In Restricted Working Space, Add	173.08		
23 21 13 23-0661	EA	16", 150 LB, Welded Black Steel Slip-On Flange	1,279.95		482.86
		For 300 LB Rating, Add	644.16		
		For Work In Restricted Working Space, Add	191.62		
23 21 13 23-0662	EA	18", 150 LB, Welded Black Steel Slip-On Flange	1,419.51		541.37
		For 300 LB Rating, Add	720.62		
		For Work In Restricted Working Space, Add	210.17		
23 21 13 23-0663	EA	20", 150 LB, Welded Black Steel Slip-On Flange	1,579.57		687.15
		For 300 LB Rating, Add	815.54		
		For Work In Restricted Working Space, Add	228.71		
23 21 13 23-0664	EA	24", 150 LB, Welded Black Steel Slip-On Flange	1,804.20		744.43
		For 300 LB Rating, Add	919.42		
		For Work In Restricted Working Space, Add	265.80		
23 21 13 23-0665 150 LB, Forged Steel Blind Flanges (23 21 13 23-0393)					
23 21 13 23-0666	EA	2", 150 LB, Forged Steel Blind Flange.....	76.05		27.87
		For 300 LB Rating, Add	22.11		
		For 600 LB Rating, Add	57.13		
		For Work In Restricted Working Space, Add	16.72		
23 21 13 23-0667	EA	2-1/2", 150 LB, Forged Steel Blind Flange.....	99.83		33.44
		For 300 LB Rating, Add	33.38		
		For 600 LB Rating, Add	89.11		
		For Work In Restricted Working Space, Add	20.06		
23 21 13 23-0668	EA	3", 150 LB, Forged Steel Blind Flange.....	123.25		44.59
		For 300 LB Rating, Add	36.63		
		For 600 LB Rating, Add	95.17		
		For Work In Restricted Working Space, Add	26.75		
23 21 13 23-0669	EA	4", 150 LB, Forged Steel Blind Flange.....	158.45		55.73
		For 300 LB Rating, Add	49.29		
		For 600 LB Rating, Add	129.47		
		For Work In Restricted Working Space, Add	33.44		
23 21 13 23-0670	EA	6", 150 LB, Forged Steel Blind Flange.....	216.08		72.46
		For 300 LB Rating, Add	72.16		
		For 600 LB Rating, Add	192.57		
		For Work In Restricted Working Space, Add	43.47		
23 21 13 23-0671	EA	8", 150 LB, Forged Steel Blind Flange.....	280.12		83.60
		For 300 LB Rating, Add	107.89		
		For 600 LB Rating, Add	296.09		
		For Work In Restricted Working Space, Add	50.16		
23 21 13 23-0672	EA	10", 150 LB, Forged Steel Blind Flange.....	421.14		100.31
		For 300 LB Rating, Add	197.47		
		For 600 LB Rating, Add	559.30		
		For Work In Restricted Working Space, Add	60.19		
23 21 13 23-0673	EA	12", 150 LB, Forged Steel Blind Flange.....	546.17		117.04
		For 300 LB Rating, Add	274.25		
		For 600 LB Rating, Add	784.13		
		For Work In Restricted Working Space, Add	70.22		
23 21 13 23-0674	EA	14", 150 LB, Forged Steel Blind Flange.....	910.09		133.76
		For 300 LB Rating, Add	542.15		
		For Work In Restricted Working Space, Add	80.25		
23 21 13 23-0675	EA	16", 150 LB, Forged Steel Blind Flange.....	978.27		150.48
		For 300 LB Rating, Add	573.46		
		For Work In Restricted Working Space, Add	90.29		
23 21 13 23-0676	EA	18", 150 LB, Forged Steel Blind Flange.....	1,103.50		183.91
		For 300 LB Rating, Add	627.15		
		For Work In Restricted Working Space, Add	110.35		
23 21 13 23-0677	EA	20", 150 LB, Forged Steel Blind Flange.....	1,408.52		200.64
		For 300 LB Rating, Add	847.93		
		For Work In Restricted Working Space, Add	120.38		
23 21 13 23-0678	EA	24", 150 LB, Forged Steel Blind Flange.....	1,910.18		234.08
		For 300 LB Rating, Add	1,202.78		
		For Work In Restricted Working Space, Add	140.45		
23 21 13 23-0679 3,000 LB, Forge Steel Thread-O-Lets (23 21 13 23-0393)					
23 21 13 23-0680	EA	1/2", 3,000 LB, Forge Steel Thread-O-Let	72.06		
		For Work In Restricted Working Space, Add	19.69		
23 21 13 23-0681	EA	3/4", 3,000 LB, Forge Steel Thread-O-Let	76.30		
		For Work In Restricted Working Space, Add	20.62		
23 21 13 23-0682	EA	1", 3,000 LB, Forge Steel Thread-O-Let	81.39		
		For Work In Restricted Working Space, Add	21.87		
23 21 13 23-0683	EA	1-1/4", 3,000 LB, Forge Steel Thread-O-Let.....	90.15		
		For Work In Restricted Working Space, Add	23.44		
23 21 13 23-0684	EA	1-1/2", 3,000 LB, Forge Steel Thread-O-Let.....	101.16		
		For Work In Restricted Working Space, Add	26.56		
23 21 13 23-0685	EA	2", 3,000 LB, Forge Steel Thread-O-Let	130.77		
		For Work In Restricted Working Space, Add	34.72		
23 21 13 23-0686	EA	2-1/2", 3,000 LB, Forge Steel Thread-O-Let.....	203.38		
		For Work In Restricted Working Space, Add	44.64		
23 21 13 23-0687	EA	3", 3,000 LB, Forge Steel Thread-O-Let	280.53		
		For Work In Restricted Working Space, Add	62.50		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0688	EA	4", 3,000 LB, Forge Steel Thread-O-Let	373.25	
		For Work In Restricted Working Space, Add	78.12	
23 21 13 23-0689		3,000 LB, Forge Steel Weld-O-Lets (23 21 13 23-0393)		
23 21 13 23-0690	EA	1/2", 3,000 LB, Forge Steel Weld-O-Let	91.84	
		For Work In Restricted Working Space, Add	22.72	
23 21 13 23-0691	EA	3/4", 3,000 LB, Forge Steel Weld-O-Let	98.29	
		For Work In Restricted Working Space, Add	23.81	
23 21 13 23-0692	EA	1", 3,000 LB, Forge Steel Weld-O-Let	104.54	
		For Work In Restricted Working Space, Add	25.00	
23 21 13 23-0693	EA	1-1/4", 3,000 LB, Forge Steel Weld-O-Let	122.68	
		For Work In Restricted Working Space, Add	27.78	
23 21 13 23-0694	EA	1-1/2", 3,000 LB, Forge Steel Weld-O-Let	135.73	
		For Work In Restricted Working Space, Add	31.25	
23 21 13 23-0695	EA	2", 3,000 LB, Forge Steel Weld-O-Let	181.46	
		For Work In Restricted Working Space, Add	41.65	
23 21 13 23-0696	EA	2-1/2", 3,000 LB, Forge Steel Weld-O-Let	303.16	
		For Work In Restricted Working Space, Add	50.00	
23 21 13 23-0697	EA	3", 3,000 LB, Forge Steel Weld-O-Let	399.31	
		For Work In Restricted Working Space, Add	65.62	
23 21 13 23-0698	EA	4", 3,000 LB, Forge Steel Weld-O-Let	560.03	
		For Work In Restricted Working Space, Add	83.34	
23 21 13 23-0699	EA	6", 3,000 LB, Forge Steel Weld-O-Let	790.99	
		For Work In Restricted Working Space, Add	124.99	
23 21 13 23-0700	EA	8", 3,000 LB, Forge Steel Weld-O-Let	1,263.81	
		For Work In Restricted Working Space, Add	166.64	
23 21 13 23-0701	EA	10", 3,000 LB, Forge Steel Weld-O-Let	1,648.09	
		For Work In Restricted Working Space, Add	192.30	
23 21 13 23-0702	EA	12", 3,000 LB, Forge Steel Weld-O-Let	2,670.42	
		For Work In Restricted Working Space, Add	227.27	
23 21 13 23-0703		3,000 LB, Forge Steel Sock-O-Lets (23 21 13 23-0393)		
23 21 13 23-0704	EA	1/2", 3,000 LB, Forge Steel Sock-O-Let	105.88	
		For Work In Restricted Working Space, Add	27.16	
23 21 13 23-0705	EA	3/4", 3,000 LB, Forge Steel Sock-O-Let	112.93	
		For Work In Restricted Working Space, Add	28.47	
23 21 13 23-0706	EA	1", 3,000 LB, Forge Steel Sock-O-Let	120.84	
		For Work In Restricted Working Space, Add	30.19	
23 21 13 23-0707	EA	1-1/4", 3,000 LB, Forge Steel Sock-O-Let	136.49	
		For Work In Restricted Working Space, Add	32.34	
23 21 13 23-0708	EA	1-1/2", 3,000 LB, Forge Steel Sock-O-Let	152.28	
		For Work In Restricted Working Space, Add	36.65	
23 21 13 23-0709	EA	2", 3,000 LB, Forge Steel Sock-O-Let	197.28	
		For Work In Restricted Working Space, Add	47.90	
23 21 13 23-0710	EA	2-1/2", 3,000 LB, Forge Steel Sock-O-Let	335.42	
		For Work In Restricted Working Space, Add	61.59	
23 21 13 23-0711	EA	3", 3,000 LB, Forge Steel Sock-O-Let	459.63	
		For Work In Restricted Working Space, Add	86.24	
23 21 13 23-0712	EA	4", 3,000 LB, Forge Steel Sock-O-Let	628.38	
		For Work In Restricted Working Space, Add	107.80	
23 21 13 23-0713		Class 150 Flange, Steel Bolt And Gasket Sets (23 21 13 23-0393)		
		Note: Used between weld neck or slip-on flanges and valves, or equipment with bolt connections, or between two bolted valves. Flanged equipment, flanged fittings and flanged valves exclude bolt and gasket sets.		
23 21 13 23-0714	EA	3/4" To 1-1/2" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set	16.02	
		Note: Includes rubber gasket, and four (4) 1/2" diameter bolts with washers and nut.		
		For Zinc Plated, Add	4.49	
		For Hot Dip Galvanized, Add	6.41	
		For Advanced Fluoropolymer (Blue Coating), Add	11.21	
23 21 13 23-0715	EA	2" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set	20.33	
		Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
		For Zinc Plated, Add	5.69	
		For Hot Dip Galvanized, Add	8.13	
		For Advanced Fluoropolymer (Blue Coating), Add	14.23	
23 21 13 23-0716	EA	2-1/2" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set	20.56	
		Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
		For Zinc Plated, Add	5.76	
		For Hot Dip Galvanized, Add	8.22	
		For Advanced Fluoropolymer (Blue Coating), Add	14.39	
23 21 13 23-0717	EA	3" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set	20.66	
		Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
		For Zinc Plated, Add	5.78	
		For Hot Dip Galvanized, Add	8.26	
		For Advanced Fluoropolymer (Blue Coating), Add	14.46	
23 21 13 23-0718	EA	4" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set	47.10	
		Note: Includes rubber gasket, and eight (8) 5/8" diameter bolts with washers and nut.		
		For Zinc Plated, Add	13.19	
		For Hot Dip Galvanized, Add	18.84	
		For Advanced Fluoropolymer (Blue Coating), Add	32.97	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Hydronic Piping and Pumps			23 21	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0719	EA		5" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	65.90	
			Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
			For Zinc Plated, Add	18.45	
			For Hot Dip Galvanized, Add	26.36	
			For Advanced Fluoropolymer (Blue Coating), Add	46.13	
23 21 13 23-0720	EA		6" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	72.76	
			Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
			For Zinc Plated, Add	20.37	
			For Hot Dip Galvanized, Add	29.10	
			For Advanced Fluoropolymer (Blue Coating), Add	50.93	
23 21 13 23-0721	EA		8" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	80.12	
			Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
			For Zinc Plated, Add	22.43	
			For Hot Dip Galvanized, Add	32.05	
			For Advanced Fluoropolymer (Blue Coating), Add	56.08	
23 21 13 23-0722	EA		10" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	175.76	
			Note: Includes rubber gasket, and twelve (12) 7/8" diameter bolts with washers and nut.		
			For Zinc Plated, Add	49.21	
			For Hot Dip Galvanized, Add	70.30	
			For Advanced Fluoropolymer (Blue Coating), Add	123.03	
23 21 13 23-0723	EA		12" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	180.05	
			Note: Includes rubber gasket, and twelve (12) 7/8" diameter bolts with washers and nut.		
			For Zinc Plated, Add	50.41	
			For Hot Dip Galvanized, Add	72.02	
			For Advanced Fluoropolymer (Blue Coating), Add	126.04	
23 21 13 23-0724	EA		14" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	202.05	
			Note: Includes rubber gasket, and twelve (12) 1" diameter bolts with washers and nut.		
			For Zinc Plated, Add	56.57	
			For Hot Dip Galvanized, Add	80.82	
			For Advanced Fluoropolymer (Blue Coating), Add	141.44	
23 21 13 23-0725	EA		16" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	333.64	
			Note: Includes rubber gasket, and sixteen (16) 1" diameter bolts with washers and nut.		
			For Zinc Plated, Add	93.42	
			For Hot Dip Galvanized, Add	133.46	
			For Advanced Fluoropolymer (Blue Coating), Add	233.55	
23 21 13 23-0726	EA		18" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	479.24	
			Note: Includes rubber gasket, and sixteen (16) 1-1/8" diameter bolts with washers and nut.		
			For Zinc Plated, Add	134.19	
			For Hot Dip Galvanized, Add	191.70	
			For Advanced Fluoropolymer (Blue Coating), Add	335.47	
23 21 13 23-0727	EA		20" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	605.67	
			Note: Includes rubber gasket, and twenty (20) 1-1/8" diameter bolts with washers and nut.		
			For Zinc Plated, Add	169.59	
			For Hot Dip Galvanized, Add	242.27	
			For Advanced Fluoropolymer (Blue Coating), Add	423.97	
23 21 13 23-0728	EA		24" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	861.49	
			Note: Includes rubber gasket, and twenty (20) 1-1/4" diameter bolts with washers and nut.		
			For Zinc Plated, Add	241.22	
			For Hot Dip Galvanized, Add	344.60	
			For Advanced Fluoropolymer (Blue Coating), Add	603.04	
23 21 13 23-0729	EA		30" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	1,359.35	
			Note: Includes rubber gasket, and twenty-eight (28) 1-1/4" diameter bolts with washers and nut.		
			For Zinc Plated, Add	380.62	
			For Hot Dip Galvanized, Add	543.74	
			For Advanced Fluoropolymer (Blue Coating), Add	951.55	
23 21 13 23-0730	EA		36" Pipe Diameter, Class 150 Steel Flange, Bolt And Gasket Set.....	1,912.06	
			Note: Includes rubber gasket, and thirty-two (32) 1-1/2" diameter bolts with washers and nut.		
			For Zinc Plated, Add	535.38	
			For Hot Dip Galvanized, Add	764.82	
			For Advanced Fluoropolymer (Blue Coating), Add	1,338.44	
23 21 13 23-0731			Class 300 Flange, Steel Bolt And Gasket Sets (23 21 13 23-0393)		
			Note: Used between weld neck or slip-on flanges and valves, or equipment with bolt connections, or between two bolted valves. Flanged equipment, flanged fittings and flanged valves exclude bolt and gasket sets.		
23 21 13 23-0732	EA		3/4" To 1-1/2" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	25.72	
			Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
			For Zinc Plated, Add	7.20	
			For Hot Dip Galvanized, Add	10.29	
			For Advanced Fluoropolymer (Blue Coating), Add	18.00	
23 21 13 23-0733	EA		2" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	47.13	
			Note: Includes rubber gasket, and eight (8) 5/8" diameter bolts with washers and nut.		
			For Zinc Plated, Add	13.20	
			For Hot Dip Galvanized, Add	18.85	
			For Advanced Fluoropolymer (Blue Coating), Add	32.99	
23 21 13 23-0734	EA		2-1/2" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	73.32	
			Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
			For Zinc Plated, Add	20.53	
			For Hot Dip Galvanized, Add	29.33	
			For Advanced Fluoropolymer (Blue Coating), Add	51.32	
23 21 13 23-0735	EA		3" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	79.66	
			Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
			For Zinc Plated, Add	22.30	
			For Hot Dip Galvanized, Add	31.86	
			For Advanced Fluoropolymer (Blue Coating), Add	55.76	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0736 EA 4" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	84.23	
Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
For Zinc Plated, Add	23.58	
For Hot Dip Galvanized, Add	33.69	
For Advanced Fluoropolymer (Blue Coating), Add	58.96	
23 21 13 23-0737 EA 5" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	93.06	
Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
For Zinc Plated, Add	26.06	
For Hot Dip Galvanized, Add	37.22	
For Advanced Fluoropolymer (Blue Coating), Add	65.14	
23 21 13 23-0738 EA 6" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	131.41	
Note: Includes rubber gasket, and twelve (12) 3/4" diameter bolts with washers and nut.		
For Zinc Plated, Add	36.79	
For Hot Dip Galvanized, Add	52.56	
For Advanced Fluoropolymer (Blue Coating), Add	91.99	
23 21 13 23-0739 EA 8" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	203.08	
Note: Includes rubber gasket, and twelve (12) 7/8" diameter bolts with washers and nut.		
For Zinc Plated, Add	56.86	
For Hot Dip Galvanized, Add	81.23	
For Advanced Fluoropolymer (Blue Coating), Add	142.16	
23 21 13 23-0740 EA 10" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	366.91	
Note: Includes rubber gasket, and sixteen (16) 1" diameter bolts with washers and nut.		
For Zinc Plated, Add	102.73	
For Hot Dip Galvanized, Add	146.76	
For Advanced Fluoropolymer (Blue Coating), Add	256.84	
23 21 13 23-0741 EA 12" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	526.86	
Note: Includes rubber gasket, and sixteen (16) 1-1/8" diameter bolts with washers and nut.		
For Zinc Plated, Add	147.52	
For Hot Dip Galvanized, Add	210.74	
For Advanced Fluoropolymer (Blue Coating), Add	368.80	
23 21 13 23-0742 EA 14" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	719.37	
Note: Includes rubber gasket, and twenty (20) 1-1/8" diameter bolts with washers and nut.		
For Zinc Plated, Add	201.42	
For Hot Dip Galvanized, Add	287.75	
For Advanced Fluoropolymer (Blue Coating), Add	503.56	
23 21 13 23-0743 EA 16" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	989.96	
Note: Includes rubber gasket, and twenty (20) 1-1/4" diameter bolts with washers and nut.		
For Zinc Plated, Add	277.19	
For Hot Dip Galvanized, Add	395.98	
For Advanced Fluoropolymer (Blue Coating), Add	692.97	
23 21 13 23-0744 EA 18" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	1,273.22	
Note: Includes rubber gasket, and twenty-four (24) 1-1/4" diameter bolts with washers and nut.		
For Zinc Plated, Add	356.50	
For Hot Dip Galvanized, Add	509.29	
For Advanced Fluoropolymer (Blue Coating), Add	891.25	
23 21 13 23-0745 EA 20" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	1,352.97	
Note: Includes rubber gasket, and twenty-four (24) 1-1/4" diameter bolts with washers and nut.		
For Zinc Plated, Add	378.83	
For Hot Dip Galvanized, Add	541.19	
For Advanced Fluoropolymer (Blue Coating), Add	947.08	
23 21 13 23-0746 EA 24" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	1,718.93	
Note: Includes rubber gasket, and twenty-four (24) 1-1/2" diameter bolts with washers and nut.		
For Zinc Plated, Add	481.30	
For Hot Dip Galvanized, Add	687.57	
For Advanced Fluoropolymer (Blue Coating), Add	1,203.25	
23 21 13 23-0747 EA 30" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	2,707.71	
Note: Includes rubber gasket, and twenty-eight (28) 1-3/4" diameter bolts with washers and nut.		
For Zinc Plated, Add	758.16	
For Hot Dip Galvanized, Add	1,083.08	
For Advanced Fluoropolymer (Blue Coating), Add	1,895.40	
23 21 13 23-0748 EA 36" Pipe Diameter, Class 300 Steel Flange, Bolt And Gasket Set.....	4,002.82	
Note: Includes rubber gasket, and thirty-two (32) 2" diameter bolts with washers and nut.		
For Zinc Plated, Add	1,120.79	
For Hot Dip Galvanized, Add	1,601.13	
For Advanced Fluoropolymer (Blue Coating), Add	2,801.97	
23 21 13 23-0749 Class 150 Flange, Stainless Steel Bolt And Gasket Sets (23 21 13 23-0393)		
Note: Used between weld neck or slip-on flanges and valves, or equipment with bolt connections, or between two bolted valves. Flanged equipment, flanged fittings and flanged valves exclude bolt and gasket sets.		
23 21 13 23-0750 EA 3/4" To 1-1/2" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set.....	16.02	
Note: Includes rubber gasket, and four (4) 1/2" diameter bolts with washers and nut.		
23 21 13 23-0751 EA 2" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set.....	57.99	
Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
23 21 13 23-0752 EA 2-1/2" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set.....	58.10	
Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
23 21 13 23-0753 EA 3" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set.....	58.20	
Note: Includes rubber gasket, and four (4) 5/8" diameter bolts with washers and nut.		
23 21 13 23-0754 EA 4" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set.....	123.96	
Note: Includes rubber gasket, and eight (8) 5/8" diameter bolts with washers and nut.		
23 21 13 23-0755 EA 5" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set.....	156.12	
Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
23 21 13 23-0756 EA 6" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set.....	177.62	
Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		
23 21 13 23-0757 EA 8" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set.....	179.12	
Note: Includes rubber gasket, and eight (8) 3/4" diameter bolts with washers and nut.		



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0758	EA	10" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set..... Note: Includes rubber gasket, and twelve (12) 7/8" diameter bolts with washers and nut.	459.97	
23 21 13 23-0759	EA	12" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set..... Note: Includes rubber gasket, and twelve (12) 7/8" diameter bolts with washers and nut.	462.80	
23 21 13 23-0760	EA	14" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set..... Note: Includes rubber gasket, and twelve (12) 1" diameter bolts with washers and nut.	698.97	
23 21 13 23-0761	EA	16" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set..... Note: Includes rubber gasket, and sixteen (16) 1" diameter bolts with washers and nut.	930.74	
23 21 13 23-0762	EA	18" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set..... Note: Includes rubber gasket, and sixteen (16) 1-1/8" diameter bolts with washers and nut.	2,410.02	
23 21 13 23-0763	EA	20" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set..... Note: Includes rubber gasket, and twenty (20) 1-1/8" diameter bolts with washers and nut.	2,793.10	
23 21 13 23-0764	EA	24" Pipe Diameter, Class 150 Flange, Stainless Steel Bolt And Gasket Set..... Note: Includes rubber gasket, and twenty (20) 1-1/4" diameter bolts with washers and nut.	3,225.47	
23 21 13 23-0765		150 LB, Rubber Flange Gasket Replacement (23 21 13 23-0393) Note: Includes unbolting, removal of old gaskets, new 150 LB rubber gasket and rebolting.		
23 21 13 23-0766	EA	1/2", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	31.41 0.21 9.24	
23 21 13 23-0767	EA	3/4", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	33.66 0.28 9.86	
23 21 13 23-0768	EA	1", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	37.35 0.50 10.78	
23 21 13 23-0769	EA	1-1/4", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	40.63 0.57 11.70	
23 21 13 23-0770	EA	1-1/2", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	45.15 0.71 12.94	
23 21 13 23-0771	EA	2", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	50.07 0.99 14.17	
23 21 13 23-0772	EA	2-1/2", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	59.29 1.35 16.63	
23 21 13 23-0773	EA	3", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	62.98 1.56 17.56	
23 21 13 23-0774	EA	4", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	84.30 2.56 23.10	
23 21 13 23-0775	EA	5", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	97.43 2.84 26.80	
23 21 13 23-0776	EA	6", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	112.18 3.69 30.49	
23 21 13 23-0777	EA	8", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	138.60 5.39 36.96	
23 21 13 23-0778	EA	10", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	153.30 7.66 39.42	
23 21 13 23-0779	EA	12", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	176.83 9.79 44.66	
23 21 13 23-0780	EA	14", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	187.44 11.70 46.20	
23 21 13 23-0781	EA	16", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	242.62 13.05 61.60	
23 21 13 23-0782	EA	18", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	263.74 13.62 67.45	
23 21 13 23-0783	EA	20", 150 LB, Rubber Flange Gasket Replacement..... For 300 LB Rating Gasket Set, Add For Work In Restricted Working Space, Add	315.83 14.61 82.23	
23 21 13 23-0784		Cut And Prepare For Welding Existing In-Place Black Steel Pipe (23 21 13 23-0393) Note: For use when connecting pipe to an existing in-place system.		
23 21 13 23-0785	EA	1/2", Cut And Prepare For Welding Existing In Place Black Steel Pipe..... For Work In Restricted Working Space, Add	22.29 6.69	
23 21 13 23-0786	EA	3/4", Cut And Prepare For Welding Existing In Place Black Steel Pipe..... For Work In Restricted Working Space, Add	24.07 7.22	
23 21 13 23-0787	EA	1", Cut And Prepare For Welding Existing In Place Black Steel Pipe..... For Work In Restricted Working Space, Add	27.07 8.12	
23 21 13 23-0788	EA	1-1/4", Cut And Prepare For Welding Existing In Place Black Steel Pipe..... For Work In Restricted Working Space, Add	28.41 8.52	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0789	EA	1-1/2", Cut And Prepare For Welding Existing In Place Black Steel Pipe	30.08	
		<i>For Work In Restricted Working Space, Add</i>	9.02	
23 21 13 23-0790	EA	2", Cut And Prepare For Welding Existing In Place Black Steel Pipe	32.31	
		<i>For Work In Restricted Working Space, Add</i>	9.69	
23 21 13 23-0791	EA	2-1/2", Cut And Prepare For Welding Existing In Place Black Steel Pipe	34.55	
		<i>For Work In Restricted Working Space, Add</i>	10.37	
23 21 13 23-0792	EA	3", Cut And Prepare For Welding Existing In Place Black Steel Pipe	37.88	
		<i>For Work In Restricted Working Space, Add</i>	11.36	
23 21 13 23-0793	EA	4", Cut And Prepare For Welding Existing In Place Black Steel Pipe	41.22	
		<i>For Work In Restricted Working Space, Add</i>	12.37	
23 21 13 23-0794	EA	6", Cut And Prepare For Welding Existing In Place Black Steel Pipe	44.57	
		<i>For Work In Restricted Working Space, Add</i>	13.37	
23 21 13 23-0795	EA	8", Cut And Prepare For Welding Existing In Place Black Steel Pipe	47.91	
		<i>For Work In Restricted Working Space, Add</i>	14.37	
23 21 13 23-0796	EA	10", Cut And Prepare For Welding Existing In Place Black Steel Pipe	52.37	
		<i>For Work In Restricted Working Space, Add</i>	15.71	
23 21 13 23-0797	EA	12", Cut And Prepare For Welding Existing In Place Black Steel Pipe	56.82	
		<i>For Work In Restricted Working Space, Add</i>	17.05	
23 21 13 23-0798	EA	14", Cut And Prepare For Welding Existing In Place Black Steel Pipe	61.28	
		<i>For Work In Restricted Working Space, Add</i>	18.38	
23 21 13 23-0799	EA	16", Cut And Prepare For Welding Existing In Place Black Steel Pipe	65.74	
		<i>For Work In Restricted Working Space, Add</i>	19.72	
23 21 13 23-0800	EA	18", Cut And Prepare For Welding Existing In Place Black Steel Pipe	69.08	
		<i>For Work In Restricted Working Space, Add</i>	20.72	
23 21 13 23-0801	EA	20", Cut And Prepare For Welding Existing In Place Black Steel Pipe	72.42	
		<i>For Work In Restricted Working Space, Add</i>	21.73	
23 21 13 23-0802	EA	24", Cut And Prepare For Welding Existing In Place Black Steel Pipe	76.88	
		<i>For Work In Restricted Working Space, Add</i>	23.06	
23 21 13 23-0803 Welded Plain End Electric Resistance Black Steel Pipe (23 21 13 23-0393)				
Note: ASTM A-135.				
23 21 13 23-0804	LF	2" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings	31.21	11.46
		<i>For Work In Restricted Working Space, Add</i>	5.63	
23 21 13 23-0805	LF	2-1/2" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings	37.88	12.50
		<i>For Work In Restricted Working Space, Add</i>	5.63	
23 21 13 23-0806	LF	3" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings	41.96	12.30
		<i>For Work In Restricted Working Space, Add</i>	5.51	
23 21 13 23-0807	LF	4" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings	51.89	15.62
		<i>For Work In Restricted Working Space, Add</i>	7.02	
23 21 13 23-0808	LF	6" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings	89.83	23.12
		<i>For Work In Restricted Working Space, Add</i>	10.40	
23 21 13 23-0809	LF	8.322" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings	120.11	28.12
		<i>For Work In Restricted Working Space, Add</i>	12.67	
23 21 13 23-0810	LF	10.365" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings	168.23	35.03
		<i>For Work In Restricted Working Space, Add</i>	15.76	
23 21 13 23-0811	LF	12.375" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings	204.81	42.24
		<i>For Work In Restricted Working Space, Add</i>	18.99	
23 21 13 23-0812	LF	14.375" Electric Resistance Weld Black Pipe, Plain End Schedule 40 ASTM A-135, Not Including Hangers Or Fittings	259.73	54.81
		<i>For Work In Restricted Working Space, Add</i>	24.66	
23 21 13 23-0813 150 LB, Spiral Wound Metal Flange Gasket Replacement (23 21 13 23-0393)				
Note: Includes unbolting, removal of old gaskets, new 150 LB spiral wound metal flange gasket (1/8" thick carbon steel outer ring with spiral wound 304 stainless steel inner ring) and rebolting.				
23 21 13 23-0814	EA	1/2", 150 LB, Spiral Wound Metal Flange Gasket Replacement	34.90	
		<i>For 300 Lb., Add</i>	0.31	
		<i>For Work In Restricted Working Space, Add</i>	9.24	
23 21 13 23-0815	EA	3/4", 150 LB, Spiral Wound Metal Flange Gasket Replacement	37.01	
		<i>For 300 Lb., Add</i>	0.31	
		<i>For Work In Restricted Working Space, Add</i>	9.86	
23 21 13 23-0816	EA	1", 150 LB, Spiral Wound Metal Flange Gasket Replacement	40.13	
		<i>For 300 Lb., Add</i>	0.32	
		<i>For Work In Restricted Working Space, Add</i>	10.78	
23 21 13 23-0817	EA	1-1/4", 150 LB, Spiral Wound Metal Flange Gasket Replacement	43.85	
		<i>For 300 Lb., Add</i>	0.36	
		<i>For Work In Restricted Working Space, Add</i>	11.70	
23 21 13 23-0818	EA	1-1/2", 150 LB, Spiral Wound Metal Flange Gasket Replacement	48.06	
		<i>For 300 Lb., Add</i>	0.37	
		<i>For Work In Restricted Working Space, Add</i>	12.94	
23 21 13 23-0819	EA	2", 150 LB, Spiral Wound Metal Flange Gasket Replacement	52.40	
		<i>For 300 Lb., Add</i>	0.39	
		<i>For Work In Restricted Working Space, Add</i>	14.17	
23 21 13 23-0820	EA	2-1/2", 150 LB, Spiral Wound Metal Flange Gasket Replacement	61.06	
		<i>For 300 Lb., Add</i>	0.42	
		<i>For Work In Restricted Working Space, Add</i>	16.63	
23 21 13 23-0821	EA	3", 150 LB, Spiral Wound Metal Flange Gasket Replacement	64.59	
		<i>For 300 Lb., Add</i>	0.46	
		<i>For Work In Restricted Working Space, Add</i>	17.56	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0822	EA	4", 150 LB, Spiral Wound Metal Flange Gasket Replacement..... <i>For 300 Lb., Add</i> <i>For Work In Restricted Working Space, Add</i>	84.76 0.58 23.10	
23 21 13 23-0823	EA	5", 150 LB, Spiral Wound Metal Flange Gasket Replacement..... <i>For 300 Lb., Add</i> <i>For Work In Restricted Working Space, Add</i>	98.89 0.72 26.79	
23 21 13 23-0824	EA	6", 150 LB, Spiral Wound Metal Flange Gasket Replacement..... <i>For 300 Lb., Add</i> <i>For Work In Restricted Working Space, Add</i>	112.29 0.80 30.50	
23 21 13 23-0825	EA	8", 150 LB, Spiral Wound Metal Flange Gasket Replacement..... <i>For 300 Lb., Add</i> <i>For Work In Restricted Working Space, Add</i>	135.92 0.95 36.97	
23 21 13 23-0826	EA	10", 150 LB, Spiral Wound Metal Flange Gasket Replacement..... <i>For 300 Lb., Add</i> <i>For Work In Restricted Working Space, Add</i>	148.92 1.37 39.42	
23 21 13 23-0827	EA	12", 150 LB, Spiral Wound Metal Flange Gasket Replacement..... <i>For 300 Lb., Add</i> <i>For Work In Restricted Working Space, Add</i>	175.26 1.98 44.66	
23 21 13 23-0828		150 LB, Flexible Graphite Flange Gasket Replacement (23 21 13 23-0393) Note: Includes unbolting, removal of old gaskets, new 150 LB spiral wound metal flange gasket (flexible graphite outer ring with 316 stainless steel inner ring) and rebolting.		
23 21 13 23-0829	EA	1/2", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	31.62 9.24	
23 21 13 23-0830	EA	3/4", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	34.21 9.86	
23 21 13 23-0831	EA	1", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	37.49 10.78	
23 21 13 23-0832	EA	1-1/4", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	41.23 11.70	
23 21 13 23-0833	EA	1-1/2", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	45.49 12.94	
23 21 13 23-0834	EA	2", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	50.34 14.17	
23 21 13 23-0835	EA	2-1/2", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	59.64 16.63	
23 21 13 23-0836	EA	3", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	62.94 17.56	
23 21 13 23-0837	EA	4", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	84.16 23.10	
23 21 13 23-0838	EA	5", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	97.84 26.79	
23 21 13 23-0839	EA	6", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	111.16 30.50	
23 21 13 23-0840	EA	8", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	139.21 36.97	
23 21 13 23-0841	EA	10", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	154.62 39.42	
23 21 13 23-0842	EA	12", 150 LB, Flexible Graphite Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	177.59 44.66	
23 21 13 23-0843		150 LB, Teflon, Spiral Wound, Flange Gasket Replacement (23 21 13 23-0393) Note: Includes unbolting, removal of old gaskets, new 150 LB spiral wound metal flange gasket (teflon outer ring with 304 stainless steel inner ring) and rebolting.		
23 21 13 23-0844	EA	1/2", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	51.11 9.24	
23 21 13 23-0845	EA	3/4", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	54.55 9.86	
23 21 13 23-0846	EA	1", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	59.04 10.78	
23 21 13 23-0847	EA	1-1/4", Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	67.00 11.70	
23 21 13 23-0848	EA	1-1/2", Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	72.04 12.94	
23 21 13 23-0849	EA	2", Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	78.56 14.17	
23 21 13 23-0850	EA	2-1/2", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	91.25 16.63	
23 21 13 23-0851	EA	3", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	103.96 17.56	
23 21 13 23-0852	EA	4", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	131.11 23.10	
23 21 13 23-0853	EA	5", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	156.71 26.79	
23 21 13 23-0854	EA	6", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	206.11 30.50	
23 21 13 23-0855	EA	8", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	226.38 36.97	
23 21 13 23-0856	EA	10", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	258.32 39.42	
23 21 13 23-0857	EA	12", 150 LB Teflon, Spiral Wound, Flange Gasket Replacement..... <i>For Work In Restricted Working Space, Add</i>	340.55 44.66	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 21 13 23-0858	Flanged Steel Fittings (23 21 13 23)		
	See CSI section 23 21 13 23-0394 for steel pipe, 23 21 13 23-0637 for welded neck flange ends.		
23 21 13 23-0859	Flanged Steel Fittings, Standard Weight (23 21 13 23-0858)		
	Note: Flanged equipment, flanged fittings and flanged valves exclude bolt and gasket sets. See CSI section 23 21 13 23-0713 for Class 150 steel bolt and gasket set.		
23 21 13 23-0860	Flanged Steel, 90 Degree Elbows (23 21 13 23-0859)		
23 21 13 23-0861	EA 2" Standard Weight, Flanged Steel, 90 Degree Elbow	385.81	47.91
	For Galvanized Fittings, Add	251.18	
	For Extra Heavy Weight Fittings, Add	376.78	
23 21 13 23-0862	EA 2-1/2" Standard Weight, Flanged Steel, 90 Degree Elbow	430.30	53.36
	For Galvanized Fittings, Add	280.22	
	For Extra Heavy Weight Fittings, Add	420.32	
23 21 13 23-0863	EA 3" Standard Weight, Flanged Steel, 90 Degree Elbow	429.05	58.90
	For Galvanized Fittings, Add	272.65	
	For Extra Heavy Weight Fittings, Add	408.97	
23 21 13 23-0864	EA 4" Standard Weight, Flanged Steel, 90 Degree Elbow	542.81	68.44
	For Galvanized Fittings, Add	352.17	
	For Extra Heavy Weight Fittings, Add	528.25	
23 21 13 23-0865	EA 5" Standard Weight, Flanged Steel, 90 Degree Elbow	753.93	76.64
	For Galvanized Fittings, Add	511.21	
	For Extra Heavy Weight Fittings, Add	766.81	
23 21 13 23-0866	EA 6" Standard Weight, Flanged Steel, 90 Degree Elbow	799.22	88.96
	For Galvanized Fittings, Add	532.67	
	For Extra Heavy Weight Fittings, Add	799.01	
23 21 13 23-0867	EA 8" Standard Weight, Flanged Steel, 90 Degree Elbow	1,010.33	98.50
	For Galvanized Fittings, Add	690.06	
	For Extra Heavy Weight Fittings, Add	1,035.10	
23 21 13 23-0868	Flanged Steel, Reducing 90 Degree Elbows (23 21 13 23-0859)		
23 21 13 23-0869	EA 2-1/2" x 2" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	710.21	50.69
	For Galvanized Fittings, Add	507.42	
	For Extra Heavy Weight Fittings, Add	761.14	
23 21 13 23-0870	EA 3" x 2-1/2" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	740.51	56.13
	For Galvanized Fittings, Add	525.10	
	For Extra Heavy Weight Fittings, Add	787.64	
23 21 13 23-0871	EA 4" x 3" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	920.62	63.61
	For Galvanized Fittings, Add	660.15	
	For Extra Heavy Weight Fittings, Add	990.23	
23 21 13 23-0872	EA 5" x 3" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	1,136.61	67.72
	For Galvanized Fittings, Add	828.03	
	For Extra Heavy Weight Fittings, Add	1,242.05	
23 21 13 23-0873	EA 6" x 4" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	1,295.05	78.70
	For Galvanized Fittings, Add	941.64	
	For Extra Heavy Weight Fittings, Add	1,412.46	
23 21 13 23-0874	EA 8" x 6" Standard Weight, Flanged Steel, Reducing 90 Degree Elbow	1,802.00	93.78
	For Galvanized Fittings, Add	1,329.14	
	For Extra Heavy Weight Fittings, Add	1,993.72	
23 21 13 23-0875	Flanged Steel, 45 Degree Elbows (23 21 13 23-0859)		
23 21 13 23-0876	EA 2" Standard Weight, Flanged Steel, 45 Degree Elbow	499.42	47.91
	For Galvanized Fittings, Add	342.07	
	For Extra Heavy Weight Fittings, Add	513.11	
23 21 13 23-0877	EA 2-1/2" Standard Weight, Flanged Steel, 45 Degree Elbow	521.82	53.36
	For Galvanized Fittings, Add	353.43	
	For Extra Heavy Weight Fittings, Add	530.15	
23 21 13 23-0878	EA 3" Standard Weight, Flanged Steel, 45 Degree Elbow	542.65	58.90
	For Galvanized Fittings, Add	363.53	
	For Extra Heavy Weight Fittings, Add	545.29	
23 21 13 23-0879	EA 4" Standard Weight, Flanged Steel, 45 Degree Elbow	675.35	68.44
	For Galvanized Fittings, Add	458.20	
	For Extra Heavy Weight Fittings, Add	687.30	
23 21 13 23-0880	EA 5" Standard Weight, Flanged Steel, 45 Degree Elbow	968.52	76.64
	For Galvanized Fittings, Add	682.88	
	For Extra Heavy Weight Fittings, Add	1,024.32	
23 21 13 23-0881	EA 6" Standard Weight, Flanged Steel, 45 Degree Elbow	947.53	88.96
	For Galvanized Fittings, Add	651.32	
	For Extra Heavy Weight Fittings, Add	976.98	
23 21 13 23-0882	EA 8" Standard Weight, Flanged Steel, 45 Degree Elbow	1,115.95	98.50
	For Galvanized Fittings, Add	774.56	
	For Extra Heavy Weight Fittings, Add	1,161.84	
23 21 13 23-0883	Flanged Steel, Tees (23 21 13 23-0859)		
23 21 13 23-0884	EA 2" Standard Weight, Flanged Steel, Tee.....	497.45	71.83
	For Galvanized Fittings, Add	311.78	
	For Extra Heavy Weight Fittings, Add	467.66	
23 21 13 23-0885	EA 2-1/2" Standard Weight, Flanged Steel, Tee.....	639.14	80.03
	For Galvanized Fittings, Add	415.28	
	For Extra Heavy Weight Fittings, Add	622.92	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Hydronic Piping and Pumps			23 21	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0886	EA		3" Standard Weight, Flanged Steel, Tee..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	586.78 363.54 545.30	88.24
23 21 13 23-0887	EA		4" Standard Weight, Flanged Steel, Tee..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	832.34 542.75 814.13	102.71
23 21 13 23-0888	EA		5" Standard Weight, Flanged Steel, Tee..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	1,226.93 843.65 1,265.47	115.02
23 21 13 23-0889	EA		6" Standard Weight, Flanged Steel, Tee..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	1,495.66 1,036.47 1,554.71	133.49
23 21 13 23-0890	EA		8" Standard Weight, Flanged Steel, Tee..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	1,657.77 1,140.71 1,711.07	154.63
23 21 13 23-0891 Flanged Steel, Reducing Tees (23 21 13 23-0859)					
23 21 13 23-0892	EA		2-1/2" Standard Weight, Flanged Steel, Reducing Tee..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	777.04 528.88 793.32	77.37
23 21 13 23-0893	EA		3" Standard Weight, Flanged Steel, Reducing Tee..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	896.65 614.71 922.07	85.57
23 21 13 23-0894	EA		4" Standard Weight, Flanged Steel, Reducing Tee..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	1,530.36 1,106.91 1,660.37	97.88
23 21 13 23-0895	EA		5" Standard Weight, Flanged Steel, Reducing Tee..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	1,655.48 1,191.41 1,787.11	110.91
23 21 13 23-0896	EA		6" Standard Weight, Flanged Steel, Reducing Tee..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	2,077.95 1,509.69 2,264.53	127.33
23 21 13 23-0897	EA		8" Standard Weight, Flanged Steel, Reducing Tee..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	2,590.62 1,900.94 2,851.42	143.03
23 21 13 23-0898 Flanged Steel, Concentric Reducers (23 21 13 23-0859)					
23 21 13 23-0899	EA		3" x 2-1/2" Standard Weight, Flanged Steel, Concentric Reducer..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	731.04 517.52 776.28	56.13
23 21 13 23-0900	EA		4" x 3" Standard Weight, Flanged Steel, Concentric Reducer..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	830.69 588.21 882.31	63.61
23 21 13 23-0901	EA		5" x 4" Standard Weight, Flanged Steel, Concentric Reducer..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	1,227.43 894.94 1,342.40	72.54
23 21 13 23-0902	EA		6" x 4" Standard Weight, Flanged Steel, Concentric Reducer..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	1,353.43 988.34 1,482.52	78.70
23 21 13 23-0903	EA		8" x 6" Standard Weight, Flanged Steel, Concentric Reducer..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	1,585.84 1,156.22 1,734.32	93.78
23 21 13 23-0904 Flanged Steel, Eccentric Reducers (23 21 13 23-0859)					
23 21 13 23-0905	EA		4" x 3" Standard Weight, Flanged Steel, Eccentric Reducer..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	790.93 556.40 834.60	63.61
23 21 13 23-0906	EA		5" x 4" Standard Weight, Flanged Steel, Eccentric Reducer..... <i>For Galvanized Fittings, Add</i> <i>For Extra Heavy Weight Fittings, Add</i>	1,071.86 770.48 1,155.72	72.54
23 21 13 23-0907 Plain End Couplings And Fittings (23 21 13 23)					
Note: For use on standard weight steel pipe (Schedule 40), but may be used on lightwall steel or other metallic pipe such as aluminum or stainless steel.					
23 21 13 23-0908 Plain End Piping System Couplings (23 21 13 23-0907)					
23 21 13 23-0909 Plainlock Plain End Piping System Couplings (23 21 13 23-0908)					
Note: Ductile iron body with gasket, bolts and nuts.					
23 21 13 23-0910	EA		1" Plainlock Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	171.85 32.52	6.16
23 21 13 23-0911	EA		1-1/2" Plainlock Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	175.44 32.52	8.51
23 21 13 23-0912	EA		2" Plainlock Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	179.60 32.52	11.29
23 21 13 23-0913	EA		2-1/2" Plainlock Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	183.14 32.52	13.64
23 21 13 23-0914	EA		3" Plainlock Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	216.54 38.38	16.41
23 21 13 23-0915	EA		4" Plainlock Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	298.73 53.18	21.86

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0916	EA	6" Plainlock Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	502.35 89.80	35.60
23 21 13 23-0917		Roust-A-Bout Plain End Piping System Couplings (23 21 13 23-0908)		
		Note: Ductile iron body with gasket, bolts and nuts.		
23 21 13 23-0918	EA	1-1/2" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	207.03 48.55	8.51
23 21 13 23-0919	EA	2" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	211.19 48.55	11.29
23 21 13 23-0920	EA	2-1/2" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	214.74 48.55	13.74
23 21 13 23-0921	EA	3" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	312.29 71.92	16.41
23 21 13 23-0922	EA	3-1/2" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	361.67 83.23	19.19
23 21 13 23-0923	EA	4" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	365.73 83.23	21.86
23 21 13 23-0924	EA	5" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	516.68 118.90	27.40
23 21 13 23-0925	EA	6" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	634.26 145.22	35.60
23 21 13 23-0926	EA	8" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	1,093.69 257.51	42.48
23 21 13 23-0927	EA	10" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	1,415.48 335.01	50.27
23 21 13 23-0928	EA	12" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	1,770.76 420.37	59.51
23 21 13 23-0929	EA	14" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	2,486.38 596.93	65.77
23 21 13 23-0930	EA	16" Roust-A-Bout Plain End Piping System Coupling..... <i>For Galvanized Fittings, Add</i>	3,381.32 817.45	74.39
23 21 13 23-0931		Plain End Piping System Fittings (23 21 13 23-0907)		
		Note: Cast ductile iron bodies.		
23 21 13 23-0932		Plain End Piping System, 90 Degree Elbows (23 21 13 23-0931)		
23 21 13 23-0933	EA	1" Plain End Piping System, 90 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	170.28 30.70	11.19
23 21 13 23-0934	EA	1-1/2" Plain End Piping System, 90 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	178.90 30.70	16.93
23 21 13 23-0935	EA	2" Plain End Piping System, 90 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	187.05 30.70	22.37
23 21 13 23-0936	EA	2-1/2" Plain End Piping System, 90 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	194.36 30.70	27.30
23 21 13 23-0937	EA	3" Plain End Piping System, 90 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	233.90 36.88	33.04
23 21 13 23-0938	EA	4" Plain End Piping System, 90 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	334.16 53.78	43.50
23 21 13 23-0939	EA	5" Plain End Piping System, 90 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	1,012.42 186.15	54.48
23 21 13 23-0940	EA	6" Plain End Piping System, 90 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	846.97 148.02	71.31
23 21 13 23-0941	EA	8" Plain End Piping System, 90 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	1,690.11 312.62	84.65
23 21 13 23-0942	EA	10" Plain End Piping System, 90 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	2,112.89 392.92	98.91
23 21 13 23-0943	EA	12" Plain End Piping System, 90 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	2,679.53 500.28	118.81
23 21 13 23-0944		Plain End Piping System, 45 Degree Elbows (23 21 13 23-0931)		
23 21 13 23-0945	EA	1" Plain End Piping System, 45 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	170.28 30.70	11.19
23 21 13 23-0946	EA	1-1/2" Plain End Piping System, 45 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	178.90 30.70	16.93
23 21 13 23-0947	EA	2" Plain End Piping System, 45 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	187.05 30.70	22.37
23 21 13 23-0948	EA	2-1/2" Plain End Piping System, 45 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	194.36 30.70	27.30
23 21 13 23-0949	EA	3" Plain End Piping System, 45 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	233.90 36.88	33.04
23 21 13 23-0950	EA	4" Plain End Piping System, 45 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	334.16 53.78	43.50
23 21 13 23-0951	EA	5" Plain End Piping System, 45 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	1,012.42 186.15	54.48
23 21 13 23-0952	EA	6" Plain End Piping System, 45 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	849.81 148.59	71.31
23 21 13 23-0953	EA	8" Plain End Piping System, 45 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	985.87 171.78	84.65
23 21 13 23-0954	EA	10" Plain End Piping System, 45 Degree Elbow..... <i>For Galvanized Fittings, Add</i>	1,346.90 239.72	98.91



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Hydronic Piping and Pumps			23 21	

MINOR				TOTAL DIRECT	DEMOLITION
CSI UOM DESCRIPTION				UNIT COST	UNIT COST
23 21 13 23-0955	EA	12" Plain End Piping System, 45 Degree Elbow.....	1,726.61	118.81	
		For Galvanized Fittings, Add	309.69		
23 21 13 23-0956 Plain End Piping System, Tees (23 21 13 23-0931)					
23 21 13 23-0957	EA	1" Plain End Piping System, Tee.....	232.11	16.93	
		For Galvanized Fittings, Add	41.34		
23 21 13 23-0958	EA	1-1/2" Plain End Piping System, Tee.....	244.83	25.44	
		For Galvanized Fittings, Add	41.34		
23 21 13 23-0959	EA	2" Plain End Piping System, Tee.....	256.05	32.94	
		For Galvanized Fittings, Add	41.34		
23 21 13 23-0960	EA	2-1/2" Plain End Piping System, Tee.....	267.22	40.33	
		For Galvanized Fittings, Add	41.34		
23 21 13 23-0961	EA	3" Plain End Piping System, Tee.....	371.85	49.56	
		For Galvanized Fittings, Add	59.50		
23 21 13 23-0962	EA	4" Plain End Piping System, Tee.....	509.79	64.13	
		For Galvanized Fittings, Add	82.74		
23 21 13 23-0963	EA	5" Plain End Piping System, Tee.....	1,034.56	83.83	
		For Galvanized Fittings, Add	181.76		
23 21 13 23-0964	EA	6" Plain End Piping System, Tee.....	1,279.03	104.97	
		For Galvanized Fittings, Add	224.33		
23 21 13 23-0965	EA	8" Plain End Piping System, Tee.....	1,745.59	127.64	
		For Galvanized Fittings, Add	310.83		
23 21 13 23-0966	EA	10" Plain End Piping System, Tee.....	2,596.41	148.78	
		For Galvanized Fittings, Add	474.67		
23 21 13 23-0967	EA	12" Plain End Piping System, Tee.....	3,477.81	178.23	
		For Galvanized Fittings, Add	642.12		
23 21 13 23-0968 Plain End Piping System, Reducing Tees (23 21 13 23-0931)					
23 21 13 23-0969	EA	1-1/2" Plain End Piping System, Reducing Tee.....	449.49	27.30	
		For Galvanized Fittings, Add	81.72		
23 21 13 23-0970	EA	2" Plain End Piping System, Reducing Tee.....	457.93	32.94	
		For Galvanized Fittings, Add	81.72		
23 21 13 23-0971	EA	2-1/2" Plain End Piping System, Reducing Tee.....	469.10	40.33	
		For Galvanized Fittings, Add	81.72		
23 21 13 23-0972	EA	3" Plain End Piping System, Reducing Tee.....	482.96	49.56	
		For Galvanized Fittings, Add	81.72		
23 21 13 23-0973	EA	4" Plain End Piping System, Reducing Tee.....	699.29	64.13	
		For Galvanized Fittings, Add	120.64		
23 21 13 23-0974	EA	6" Plain End Piping System, Reducing Tee.....	1,181.71	104.97	
		For Galvanized Fittings, Add	204.87		
23 21 13 23-0975	EA	8" Plain End Piping System, Reducing Tee.....	1,540.43	127.64	
		For Galvanized Fittings, Add	269.80		
23 21 13 23-0976	EA	10" Plain End Piping System, Reducing Tee.....	2,302.76	148.78	
		For Galvanized Fittings, Add	415.94		
23 21 13 23-0977	EA	12" Plain End Piping System, Reducing Tee.....	3,393.78	178.23	
		For Galvanized Fittings, Add	625.32		
23 21 13 23-0978 Plain End Piping System, Wyes (23 21 13 23-0931)					
23 21 13 23-0979	EA	2" Plain End Piping System, Wye.....	654.83	32.94	
		For Galvanized Fittings, Add	121.10		
23 21 13 23-0980	EA	2-1/2" Plain End Piping System, Wye.....	666.00	40.33	
		For Galvanized Fittings, Add	121.10		
23 21 13 23-0981	EA	3" Plain End Piping System, Wye.....	754.98	49.56	
		For Galvanized Fittings, Add	136.12		
23 21 13 23-0982	EA	4" Plain End Piping System, Wye.....	1,106.33	64.13	
		For Galvanized Fittings, Add	202.05		
23 21 13 23-0983	EA	5" Plain End Piping System, Wye.....	1,355.10	83.83	
		For Galvanized Fittings, Add	245.87		
23 21 13 23-0984	EA	6" Plain End Piping System, Wye.....	1,850.24	104.97	
		For Galvanized Fittings, Add	338.57		
23 21 13 23-0985	EA	8" Plain End Piping System, Wye.....	2,383.81	127.64	
		For Galvanized Fittings, Add	438.48		
23 21 13 23-0986	EA	10" Plain End Piping System, Wye.....	3,456.00	148.78	
		For Galvanized Fittings, Add	646.59		
23 21 13 23-0987	EA	12" Plain End Piping System, Wye.....	5,251.06	178.23	
		For Galvanized Fittings, Add	996.77		
23 21 13 23-0988 Plain End Piping System, Laterals (23 21 13 23-0931)					
23 21 13 23-0989	EA	2" Plain End Piping System, Lateral.....	697.65	32.94	
		For Galvanized Fittings, Add	129.66		
23 21 13 23-0990	EA	2-1/2" Plain End Piping System, Lateral.....	708.82	40.33	
		For Galvanized Fittings, Add	129.66		
23 21 13 23-0991	EA	3" Plain End Piping System, Lateral.....	797.52	49.56	
		For Galvanized Fittings, Add	144.63		
23 21 13 23-0992	EA	4" Plain End Piping System, Lateral.....	1,187.57	64.13	
		For Galvanized Fittings, Add	218.30		
23 21 13 23-0993	EA	5" Plain End Piping System, Lateral.....	1,548.58	83.83	
		For Galvanized Fittings, Add	284.57		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-0994	EA	6" Plain End Piping System, Lateral	1,974.73	104.97
		<i>For Galvanized Fittings, Add</i>	363.47	
23 21 13 23-0995	EA	8" Plain End Piping System, Lateral	2,841.07	127.64
		<i>For Galvanized Fittings, Add</i>	529.93	
23 21 13 23-0996	EA	10" Plain End Piping System, Lateral	3,963.34	148.78
		<i>For Galvanized Fittings, Add</i>	748.06	
23 21 13 23-0997	EA	12" Plain End Piping System, Lateral	5,326.46	178.23
		<i>For Galvanized Fittings, Add</i>	1,011.85	
23 21 13 23-0998 Plain End Piping System, Crosses (23 21 13 23-0931)				
23 21 13 23-0999	EA	2" Plain End Piping System, Cross	777.87	49.36
		<i>For Galvanized Fittings, Add</i>	87.99	
23 21 13 23-1000	EA	2-1/2" Plain End Piping System, Cross	794.59	60.43
		<i>For Galvanized Fittings, Add</i>	87.99	
23 21 13 23-1001	EA	3" Plain End Piping System, Cross	928.02	74.39
		<i>For Galvanized Fittings, Add</i>	102.06	
23 21 13 23-1002	EA	4" Plain End Piping System, Cross	1,265.77	96.14
		<i>For Galvanized Fittings, Add</i>	140.21	
23 21 13 23-1003	EA	5" Plain End Piping System, Cross	1,781.75	125.80
		<i>For Galvanized Fittings, Add</i>	199.14	
23 21 13 23-1004	EA	6" Plain End Piping System, Cross	2,338.93	156.98
		<i>For Galvanized Fittings, Add</i>	262.95	
23 21 13 23-1005	EA	8" Plain End Piping System, Cross	2,983.74	190.13
		<i>For Galvanized Fittings, Add</i>	337.34	
23 21 13 23-1006	EA	10" Plain End Piping System, Cross	4,270.74	222.24
		<i>For Galvanized Fittings, Add</i>	492.20	
23 21 13 23-1007	EA	12" Plain End Piping System, Cross	6,078.51	267.38
		<i>For Galvanized Fittings, Add</i>	709.71	
23 21 13 23-1008 Plain End Piping System, Adapter Nipples (23 21 13 23-0931)				
Note: Plain to threaded, plain to beveled or plain to grooved.				
23 21 13 23-1009	EA	1" Plain End Piping System, Adapter Nipple	73.85	6.16
		<i>For Galvanized Fittings, Add</i>	16.15	
23 21 13 23-1010	EA	1-1/2" Plain End Piping System, Adapter Nipple	79.22	8.51
		<i>For Galvanized Fittings, Add</i>	16.60	
23 21 13 23-1011	EA	2" Plain End Piping System, Adapter Nipple	83.27	11.29
		<i>For Galvanized Fittings, Add</i>	16.60	
23 21 13 23-1012	EA	2-1/2" Plain End Piping System, Adapter Nipple	98.30	13.64
		<i>For Galvanized Fittings, Add</i>	19.45	
23 21 13 23-1013	EA	3" Plain End Piping System, Adapter Nipple	120.74	16.41
		<i>For Galvanized Fittings, Add</i>	24.03	
23 21 13 23-1014	EA	4" Plain End Piping System, Adapter Nipple	193.55	21.86
		<i>For Galvanized Fittings, Add</i>	40.18	
23 21 13 23-1015	EA	6" Plain End Piping System, Adapter Nipple	475.69	27.40
		<i>For Galvanized Fittings, Add</i>	108.66	
23 21 13 23-1016 Plain End Piping System, Reducing (Swaged) Nipples (23 21 13 23-0931)				
23 21 13 23-1017	EA	1-1/2" x 1" Plain End Piping System, Reducing (Swaged) Nipple	239.21	14.67
		<i>For Galvanized Fittings, Add</i>	54.29	
23 21 13 23-1018	EA	2" x 1" Plain End Piping System, Reducing (Swaged) Nipple	243.33	17.44
		<i>For Galvanized Fittings, Add</i>	54.29	
23 21 13 23-1019	EA	2" x 1-1/2" Plain End Piping System, Reducing (Swaged) Nipple	247.47	20.21
		<i>For Galvanized Fittings, Add</i>	54.29	
23 21 13 23-1020	EA	2-1/2" x 1" Plain End Piping System, Reducing (Swaged) Nipple	246.46	19.60
		<i>For Galvanized Fittings, Add</i>	54.29	
23 21 13 23-1021	EA	2-1/2" x 1-1/2" Plain End Piping System, Reducing (Swaged) Nipple	250.50	22.27
		<i>For Galvanized Fittings, Add</i>	54.29	
23 21 13 23-1022	EA	2-1/2" x 2" Plain End Piping System, Reducing (Swaged) Nipple	254.59	24.93
		<i>For Galvanized Fittings, Add</i>	54.29	
23 21 13 23-1023	EA	3" x 1" Plain End Piping System, Reducing (Swaged) Nipple	298.26	22.57
		<i>For Galvanized Fittings, Add</i>	66.12	
23 21 13 23-1024	EA	3" x 1-1/2" Plain End Piping System, Reducing (Swaged) Nipple	301.90	24.93
		<i>For Galvanized Fittings, Add</i>	66.12	
23 21 13 23-1025	EA	3" x 2" Plain End Piping System, Reducing (Swaged) Nipple	244.98	27.70
		<i>For Galvanized Fittings, Add</i>	50.85	
23 21 13 23-1026	EA	3" x 2-1/2" Plain End Piping System, Reducing (Swaged) Nipple	252.92	33.04
		<i>For Galvanized Fittings, Add</i>	50.85	
23 21 13 23-1027	EA	3-1/2" x 3" Plain End Piping System, Reducing (Swaged) Nipple	296.55	35.60
		<i>For Galvanized Fittings, Add</i>	60.81	
23 21 13 23-1028	EA	4" x 1" Plain End Piping System, Reducing (Swaged) Nipple	413.94	28.01
		<i>For Galvanized Fittings, Add</i>	92.97	
23 21 13 23-1029	EA	4" x 1-1/2" Plain End Piping System, Reducing (Swaged) Nipple	417.54	30.47
		<i>For Galvanized Fittings, Add</i>	92.97	
23 21 13 23-1030	EA	4" x 2" Plain End Piping System, Reducing (Swaged) Nipple	331.42	33.24
		<i>For Galvanized Fittings, Add</i>	70.40	
23 21 13 23-1031	EA	4" x 2-1/2" Plain End Piping System, Reducing (Swaged) Nipple	334.94	35.60
		<i>For Galvanized Fittings, Add</i>	70.40	
23 21 13 23-1032	EA	4" x 3" Plain End Piping System, Reducing (Swaged) Nipple	339.13	38.37
		<i>For Galvanized Fittings, Add</i>	70.40	
23 21 13 23-1033	EA	4" x 3-1/2" Plain End Piping System, Reducing (Swaged) Nipple	343.13	41.04
		<i>For Galvanized Fittings, Add</i>	70.40	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1034	EA		5" x 2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,093.61 258.90	38.68
23 21 13 23-1035	EA		5" x 3" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	864.93 199.83	43.71
23 21 13 23-1036	EA		5" x 4" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	731.69 164.44	49.36
23 21 13 23-1037	EA		6" x 1" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	2,035.79 493.37	41.76
23 21 13 23-1038	EA		6" x 1-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	2,039.33 493.37	44.12
23 21 13 23-1039	EA		6" x 2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,529.73 364.87	46.89
23 21 13 23-1040	EA		6" x 2-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,533.38 364.87	49.36
23 21 13 23-1041	EA		6" x 3" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,023.81 236.46	52.02
23 21 13 23-1042	EA		6" x 3-1/2" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,027.54 236.46	54.48
23 21 13 23-1043	EA		6" x 4" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	803.40 179.33	57.46
23 21 13 23-1044	EA		6" x 5" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	916.77 205.62	62.90
23 21 13 23-1045	EA		8" x 3" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,228.84 285.17	58.80
23 21 13 23-1046	EA		8" x 4" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,237.12 285.17	64.33
23 21 13 23-1047	EA		8" x 5" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,402.38 324.42	69.87
23 21 13 23-1048	EA		8" x 6" Plain End Piping System, Reducing (Swaged) Nipple..... <i>For Galvanized Fittings, Add</i>	1,571.74 363.65	78.08
23 21 13 23-1049			Plain End Piping System, Bull Plugs (23 21 13 23-0931)		
23 21 13 23-1050	EA		1" Plain End Piping System, Bull Plug..... <i>For Galvanized Fittings, Add</i>	343.00 100.13	6.16
23 21 13 23-1051	EA		1-1/2" Plain End Piping System, Bull Plug..... <i>For Galvanized Fittings, Add</i>	346.60 100.13	8.51
23 21 13 23-1052	EA		2" Plain End Piping System, Bull Plug..... <i>For Galvanized Fittings, Add</i>	350.65 100.13	11.29
23 21 13 23-1053	EA		2-1/2" Plain End Piping System, Bull Plug..... <i>For Galvanized Fittings, Add</i>	354.29 100.13	13.64
23 21 13 23-1054	EA		3" Plain End Piping System, Bull Plug..... <i>For Galvanized Fittings, Add</i>	513.89 146.78	16.41
23 21 13 23-1055	EA		4" Plain End Piping System, Bull Plug..... <i>For Galvanized Fittings, Add</i>	664.79 189.59	21.86
23 21 13 23-1056	EA		5" Plain End Piping System, Bull Plug..... <i>For Galvanized Fittings, Add</i>	1,157.85 335.05	27.40
23 21 13 23-1057	EA		6" Plain End Piping System, Bull Plug..... <i>For Galvanized Fittings, Add</i>	1,542.92 446.87	35.60
23 21 13 23-1058	EA		8" Plain End Piping System, Bull Plug..... <i>For Galvanized Fittings, Add</i>	2,864.04 840.13	42.37
23 21 13 23-1059	EA		10" Plain End Piping System, Bull Plug..... <i>For Galvanized Fittings, Add</i>	5,158.09 1,525.12	49.56
23 21 13 23-1060	EA		12" Plain End Piping System, Bull Plug..... <i>For Galvanized Fittings, Add</i>	7,907.13 2,345.36	59.51
23 21 13 23-1061			Carbon Steel Piping Systems (23 21 13 23)		
23 21 13 23-1062			Class 3,000 LB Carbon Steel Socket Weld Fittings (23 21 13 23-1061) Note: ASTM A105		
23 21 13 23-1063			90 Degree Elbows, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)		
23 21 13 23-1064	EA		1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	48.09	20.31
23 21 13 23-1065	EA		3/4" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	54.24	22.67
23 21 13 23-1066	EA		1" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	75.27	25.34
23 21 13 23-1067	EA		1-1/4" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	112.51	28.73
23 21 13 23-1068	EA		1-1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	129.37	32.32
23 21 13 23-1069	EA		2" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	180.39	41.14
23 21 13 23-1070	EA		2-1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	392.53	60.84
23 21 13 23-1071	EA		3" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	569.78	80.03
23 21 13 23-1072	EA		4" 90 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	1,086.29	87.52
23 21 13 23-1073			45 Degree Elbows, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)		
23 21 13 23-1074	EA		1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	55.88	20.31
23 21 13 23-1075	EA		3/4" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	66.04	22.67
23 21 13 23-1076	EA		1" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	78.89	25.34
23 21 13 23-1077	EA		1-1/4" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	117.11	28.73
23 21 13 23-1078	EA		1-1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	140.37	32.32
23 21 13 23-1079	EA		2" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	180.16	41.14
23 21 13 23-1080	EA		2-1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	459.84	60.84
23 21 13 23-1081	EA		3" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB.....	626.73	80.03

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 21 13 23-1082 EA 4" 45 Degree Elbow, Carbon Steel, Socket Weld, 3,000 LB 1,061.65 87.52

23 21 13 23-1083 Straight Tees, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)

23 21 13 23-1084 EA 1/2" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB 58.10 25.34
23 21 13 23-1085 EA 3/4" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB 72.87 29.24
23 21 13 23-1086 EA 1" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB 103.18 34.57
23 21 13 23-1087 EA 1-1/4" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB 145.37 41.14
23 21 13 23-1088 EA 1-1/2" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB 177.38 49.04
23 21 13 23-1089 EA 2" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB 241.93 60.84
23 21 13 23-1090 EA 2-1/2" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB 482.86 80.03
23 21 13 23-1091 EA 3" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB 687.35 95.01
23 21 13 23-1092 EA 4" Tee, Straight, Carbon Steel, Socket Weld, 3,000 LB 1,445.72 110.48

23 21 13 23-1093 Reducing Tees, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)

23 21 13 23-1094 EA 1/2" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB 60.24 25.34
23 21 13 23-1095 EA 3/4" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB 75.07 29.24
23 21 13 23-1096 EA 1" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB 105.82 34.57
23 21 13 23-1097 EA 1-1/4" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB 151.63 41.14
23 21 13 23-1098 EA 1-1/2" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB 184.72 49.04
23 21 13 23-1099 EA 2" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB 253.19 60.84
23 21 13 23-1100 EA 2-1/2" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB 509.63 80.03
23 21 13 23-1101 EA 3" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB 725.88 95.01
23 21 13 23-1102 EA 4" Tee, Reducing, Carbon Steel, Socket Weld, 3,000 LB 1,308.60 110.48

23 21 13 23-1103 Straight Couplings, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)

23 21 13 23-1104 EA 1/2" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB 38.48 20.31
23 21 13 23-1105 EA 3/4" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB 43.60 22.67
23 21 13 23-1106 EA 1" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB 52.67 25.34
23 21 13 23-1107 EA 1-1/4" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB 61.52 28.73
23 21 13 23-1108 EA 1-1/2" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB 73.39 32.32
23 21 13 23-1109 EA 2" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB 98.00 41.14
23 21 13 23-1110 EA 2-1/2" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB 182.65 60.84
23 21 13 23-1111 EA 3" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB 246.11 80.03
23 21 13 23-1112 EA 4" Coupling, Straight, Carbon Steel, Socket Weld, 3,000 LB 382.73 87.52

23 21 13 23-1113 Reducing Couplings, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)

23 21 13 23-1114 EA 1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB 42.83 20.31
23 21 13 23-1115 EA 3/4" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB 48.37 22.67
23 21 13 23-1116 EA 1" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB 60.31 25.34
23 21 13 23-1117 EA 1-1/4" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB 70.75 28.73
23 21 13 23-1118 EA 1-1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB 87.07 32.32
23 21 13 23-1119 EA 2" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB 112.62 41.14
23 21 13 23-1120 EA 2-1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB 214.86 60.84
23 21 13 23-1121 EA 3" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB 310.91 80.03
23 21 13 23-1122 EA 4" Coupling, Reducing, Carbon Steel, Socket Weld, 3,000 LB 517.42 87.52

23 21 13 23-1123 Caps, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)

23 21 13 23-1124 EA 1/2" Cap, Carbon Steel, Socket Weld, 3,000 LB 27.02 9.54
23 21 13 23-1125 EA 3/4" Cap, Carbon Steel, Socket Weld, 3,000 LB 31.95 10.16
23 21 13 23-1126 EA 1" Cap, Carbon Steel, Socket Weld, 3,000 LB 37.80 11.70
23 21 13 23-1127 EA 1-1/4" Cap, Carbon Steel, Socket Weld, 3,000 LB 45.43 12.73
23 21 13 23-1128 EA 1-1/2" Cap, Carbon Steel, Socket Weld, 3,000 LB 55.12 12.73
23 21 13 23-1129 EA 2" Cap, Carbon Steel, Socket Weld, 3,000 LB 71.65 16.31
23 21 13 23-1130 EA 2-1/2" Cap, Carbon Steel, Socket Weld, 3,000 LB 141.39 20.31
23 21 13 23-1131 EA 3" Cap, Carbon Steel, Socket Weld, 3,000 LB 211.64 24.53
23 21 13 23-1132 EA 4" Cap, Carbon Steel, Socket Weld, 3,000 LB 317.60 29.95

23 21 13 23-1133 Black Cast Iron Square Head Plug (23 21 13 23-1062)

23 21 13 23-1134 EA 1/2" Square Head Plug, Black, Cast Iron 14.85 8.10
23 21 13 23-1135 EA 3/4" Square Head Plug, Black, Cast Iron 18.99 8.10
23 21 13 23-1136 EA 1" Square Head Plug, Black, Cast Iron 26.08 12.31
23 21 13 23-1137 EA 1-1/4" Square Head Plug, Black, Cast Iron 26.91 12.31
23 21 13 23-1138 EA 1-1/2" Square Head Plug, Black, Cast Iron 30.35 12.31
23 21 13 23-1139 EA 2" Square Head Plug, Black, Cast Iron 40.03 16.31
23 21 13 23-1140 EA 2-1/2" Square Head Plug, Black, Cast Iron 52.89 20.31
23 21 13 23-1141 EA 3" Square Head Plug, Black, Cast Iron 72.88 24.53
23 21 13 23-1142 EA 4" Square Head Plug, Black, Cast Iron 87.33 29.95

23 21 13 23-1143 Unions, 3,000 LB Carbon Steel Socket Weld (23 21 13 23-1062)

23 21 13 23-1144 EA 1/2" Union, Carbon Steel, Socket Weld, 3,000 LB 83.28 25.34
23 21 13 23-1145 EA 3/4" Union, Carbon Steel, Socket Weld, 3,000 LB 90.31 29.24
23 21 13 23-1146 EA 1" Union, Carbon Steel, Socket Weld, 3,000 LB 119.74 34.57
23 21 13 23-1147 EA 1-1/4" Union, Carbon Steel, Socket Weld, 3,000 LB 155.36 41.14



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1148	EA		1-1/2" Union, Carbon Steel, Socket Weld, 3,000 LB.....	187.94	49.04
23 21 13 23-1149	EA		2" Union, Carbon Steel, Socket Weld, 3,000 LB.....	235.77	60.84
23 21 13 23-1150	EA		2-1/2" Union, Carbon Steel, Socket Weld, 3,000 LB.....	469.30	66.07
23 21 13 23-1151	EA		3" Union, Carbon Steel, Socket Weld, 3,000 LB.....	644.67	80.03
23 21 13 23-1152			Class 6,000 LB Carbon Steel Socket Weld Fittings (23 21 13 23-1061) Note: ASTM A105		
23 21 13 23-1153			90 Degree Elbow, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1154	EA		1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	57.48	20.31
23 21 13 23-1155	EA		3/4" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	64.98	22.67
23 21 13 23-1156	EA		1" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	95.07	25.34
23 21 13 23-1157	EA		1-1/4" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	149.42	28.73
23 21 13 23-1158	EA		1-1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	172.31	32.32
23 21 13 23-1159	EA		2" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	243.47	41.14
23 21 13 23-1160	EA		2-1/2" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	552.56	60.84
23 21 13 23-1161	EA		3" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	808.65	80.03
23 21 13 23-1162	EA		4" 90 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	1,593.57	87.52
23 21 13 23-1163			45 Degree Elbow, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1164	EA		1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	70.31	20.31
23 21 13 23-1165	EA		3/4" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	84.16	22.67
23 21 13 23-1166	EA		1" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	102.05	25.34
23 21 13 23-1167	EA		1-1/4" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	159.05	28.73
23 21 13 23-1168	EA		1-1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	192.39	32.32
23 21 13 23-1169	EA		2" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	247.28	41.14
23 21 13 23-1170	EA		2-1/2" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	668.57	60.84
23 21 13 23-1171	EA		3" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	913.65	80.03
23 21 13 23-1172	EA		4" 45 Degree Elbow, Carbon Steel, Socket Weld, 6,000 LB.....	1,588.50	87.52
23 21 13 23-1173			Straight Tees, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1174	EA		1/2" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	76.71	25.34
23 21 13 23-1175	EA		3/4" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	99.75	29.24
23 21 13 23-1176	EA		1" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	150.74	34.57
23 21 13 23-1177	EA		1-1/4" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	222.93	41.14
23 21 13 23-1178	EA		1-1/2" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	273.55	49.04
23 21 13 23-1179	EA		2" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	381.53	60.84
23 21 13 23-1180	EA		2-1/2" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	818.94	80.03
23 21 13 23-1181	EA		3" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	1,191.99	95.01
23 21 13 23-1182	EA		4" Tee, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	2,631.31	110.48
23 21 13 23-1183			Reducing Tees, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1184	EA		1/2" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	60.24	25.34
23 21 13 23-1185	EA		3/4" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	75.07	29.24
23 21 13 23-1186	EA		1" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	105.82	34.57
23 21 13 23-1187	EA		1-1/4" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	151.63	41.14
23 21 13 23-1188	EA		1-1/2" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	184.72	49.04
23 21 13 23-1189	EA		2" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	253.19	60.84
23 21 13 23-1190	EA		2-1/2" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	509.63	80.03
23 21 13 23-1191	EA		3" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	725.88	95.01
23 21 13 23-1192	EA		4" Tee, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	1,308.60	110.48
23 21 13 23-1193			Straight Couplings, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1194	EA		1/2" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	42.39	20.31
23 21 13 23-1195	EA		3/4" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	48.23	22.67
23 21 13 23-1196	EA		1" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	59.77	25.34
23 21 13 23-1197	EA		1-1/4" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	70.47	28.73
23 21 13 23-1198	EA		1-1/2" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	85.42	32.32
23 21 13 23-1199	EA		2" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	115.58	41.14
23 21 13 23-1200	EA		2-1/2" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	226.87	60.84
23 21 13 23-1201	EA		3" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	307.10	80.03
23 21 13 23-1202	EA		4" Coupling, Straight, Carbon Steel, Socket Weld, 6,000 LB.....	504.40	87.52
23 21 13 23-1203			Reducing Couplings, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)		
23 21 13 23-1204	EA		1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	48.80	20.31
23 21 13 23-1205	EA		3/4" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	55.26	22.67
23 21 13 23-1206	EA		1" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	71.02	25.34
23 21 13 23-1207	EA		1-1/4" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	84.05	28.73
23 21 13 23-1208	EA		1-1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	105.58	32.32
23 21 13 23-1209	EA		2" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	137.10	41.14
23 21 13 23-1210	EA		2-1/2" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	274.21	60.84
23 21 13 23-1211	EA		3" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	402.54	80.03
23 21 13 23-1212	EA		4" Coupling, Reducing, Carbon Steel, Socket Weld, 6,000 LB.....	702.83	87.52

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 21 13 23-1213 Caps, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)			
23 21 13 23-1214	EA	1/2" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	35.59 9.54
23 21 13 23-1215	EA	3/4" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	43.18 10.16
23 21 13 23-1216	EA	1" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	51.40 11.70
23 21 13 23-1217	EA	1-1/4" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	63.16 12.73
23 21 13 23-1218	EA	1-1/2" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	79.36 12.73
23 21 13 23-1219	EA	2" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	103.27 16.31
23 21 13 23-1220	EA	2-1/2" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	215.88 20.31
23 21 13 23-1221	EA	3" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	328.99 24.53
23 21 13 23-1222	EA	4" Cap, Carbon Steel, Socket Weld, 6,000 LB.....	500.57 29.95
23 21 13 23-1223 Black Cast Iron Square Head Plug (23 21 13 23-1152)			
23 21 13 23-1224	EA	1/2" Square Head Plug, Black Cast Iron.....	14.87 8.10
23 21 13 23-1225	EA	3/4" Square Head Plug, Black Cast Iron.....	19.03 8.10
23 21 13 23-1226	EA	1" Square Head Plug, Black Cast Iron.....	26.12 12.31
23 21 13 23-1227	EA	1-1/4" Square Head Plug, Black Cast Iron.....	28.95 12.31
23 21 13 23-1228	EA	1-1/2" Square Head Plug, Black Cast Iron.....	30.40 12.31
23 21 13 23-1229	EA	2" Square Head Plug, Black Cast Iron.....	40.10 16.31
23 21 13 23-1230	EA	2-1/2" Square Head Plug, Black Cast Iron.....	53.00 20.31
23 21 13 23-1231	EA	3" Square Head Plug, Black Cast Iron.....	73.06 24.53
23 21 13 23-1232	EA	4" Square Head Plug, Black Cast Iron.....	87.55 29.95
23 21 13 23-1233 Unions, 6,000 LB Carbon Steel Socket Weld (23 21 13 23-1152)			
23 21 13 23-1234	EA	1/2" Union, Carbon Steel, Socket Weld, 6,000 LB.....	110.97 25.34
23 21 13 23-1235	EA	3/4" Union, Carbon Steel, Socket Weld, 6,000 LB.....	118.73 29.24
23 21 13 23-1236	EA	1" Union, Carbon Steel, Socket Weld, 6,000 LB.....	161.27 34.57
23 21 13 23-1237	EA	1-1/4" Union, Carbon Steel, Socket Weld, 6,000 LB.....	212.68 41.14
23 21 13 23-1238	EA	1-1/2" Union, Carbon Steel, Socket Weld, 6,000 LB.....	257.89 49.04
23 21 13 23-1239	EA	2" Union, Carbon Steel, Socket Weld, 6,000 LB.....	324.18 60.84
23 21 13 23-1240	EA	2-1/2" Union, Carbon Steel, Socket Weld, 6,000 LB.....	695.65 66.07
23 21 13 23-1241	EA	3" Union, Carbon Steel, Socket Weld, 6,000 LB.....	965.50 80.03
23 21 13 23-1242 Carbon Steel, Seamless Piping System (23 21 13 23-1061)			
Note: ASTM A106 Excludes hangers or fittings. Demolition Note applies to all pipe demolition.			
23 21 13 23-1243 Schedule 40, Carbon Steel, Seamless Piping (23 21 13 23-1242)			
Note: ASTM A106 Excludes hangers, elbow, tee, or reducer fittings.			
23 21 13 23-1244	LF	1/4" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	12.26 3.80
		For Schedule 80, Add.....	2.36
23 21 13 23-1245	LF	1/2" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	12.22 4.10
		For Schedule 80, Add.....	2.16
		For Schedule 160, Add.....	9.00
23 21 13 23-1246	LF	3/4" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	13.97 4.41
		For Schedule 80, Add.....	2.65
		For Schedule 160, Add.....	11.03
23 21 13 23-1247	LF	1" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	14.74 4.83
		For Schedule 80, Add.....	2.73
		For Schedule 160, Add.....	11.36
23 21 13 23-1248	LF	1-1/2" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	21.20 5.96
		For Schedule 80, Add.....	4.42
		For Schedule 160, Add.....	18.42
23 21 13 23-1249	LF	2" Schedule 40, Threaded (A-106) Seamless, Carbon Steel Pipe.....	25.49 7.18
		For Schedule 80, Add.....	5.29
		For Schedule 160, Add.....	22.04
23 21 13 23-1250 90 Degree Elbows, Screwed Carbon Steel (23 21 13 23-1242)			
23 21 13 23-1251	EA	1/4" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	34.61 15.60
23 21 13 23-1252	EA	1/2" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	42.67 18.26
23 21 13 23-1253	EA	3/4" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	47.62 20.42
23 21 13 23-1254	EA	1" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	55.61 22.77
23 21 13 23-1255	EA	1-1/2" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	98.94 29.14
23 21 13 23-1256	EA	2" 90 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	125.23 37.04
23 21 13 23-1257	EA	1/4" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	38.16 15.60
23 21 13 23-1258	EA	1/2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	44.00 18.26
23 21 13 23-1259	EA	3/4" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	52.01 20.42
23 21 13 23-1260	EA	1" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	65.17 22.77
23 21 13 23-1261	EA	1-1/2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	121.77 29.14
23 21 13 23-1262	EA	2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	150.45 37.04
23 21 13 23-1263	EA	1/2" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	56.42 18.26
23 21 13 23-1264	EA	3/4" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	67.66 20.42
23 21 13 23-1265	EA	1" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	81.61 22.77
23 21 13 23-1266	EA	1-1/2" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	167.96 29.14
23 21 13 23-1267	EA	2" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	272.95 37.04
23 21 13 23-1268 45 Degree Elbows, Screwed Carbon Steel (23 21 13 23-1242)			
23 21 13 23-1269	EA	1/4" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	41.77 15.60



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1270	EA	1/2" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	45.53	18.26
23 21 13 23-1271	EA	3/4" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	51.33	20.42
23 21 13 23-1272	EA	1" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	58.42	22.77
23 21 13 23-1273	EA	1-1/2" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	89.82	29.14
23 21 13 23-1274	EA	2" 45 Degree Elbow, 2,000 LB, Screwed Carbon Steel.....	139.29	37.04
23 21 13 23-1275	EA	1/4" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	42.35	15.60
23 21 13 23-1276	EA	1/2" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	48.79	18.26
23 21 13 23-1277	EA	3/4" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	55.08	20.42
23 21 13 23-1278	EA	1" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	68.19	22.77
23 21 13 23-1279	EA	1-1/2" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	118.24	29.14
23 21 13 23-1280	EA	2" 45 Degree Elbow, 3,000 LB, Screwed Carbon Steel.....	158.33	37.04
23 21 13 23-1281	EA	1/2" 45 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	65.01	18.26
23 21 13 23-1282	EA	3/4" 45 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	83.14	20.42
23 21 13 23-1283	EA	1" 45 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	87.42	22.77
23 21 13 23-1284	EA	1-1/2" 45 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	200.90	29.14
23 21 13 23-1285	EA	2" 45 Degree Elbow, 6,000 LB, Screwed Carbon Steel.....	275.13	37.04
23 21 13 23-1286 Straight Tees, Screwed Carbon Steel (23 21 13 23-1242)				
23 21 13 23-1287	EA	1/4" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	46.49	21.64
23 21 13 23-1288	EA	1/2" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	54.03	22.77
23 21 13 23-1289	EA	3/4" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	66.50	26.37
23 21 13 23-1290	EA	1" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	83.61	31.09
23 21 13 23-1291	EA	1-1/2" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	143.97	44.12
23 21 13 23-1292	EA	2" Tee, Straight, 2,000 LB, Screwed Carbon Steel.....	178.49	54.79
23 21 13 23-1293	EA	1/4" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	49.53	21.64
23 21 13 23-1294	EA	1/2" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	56.01	22.77
23 21 13 23-1295	EA	3/4" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	73.11	26.37
23 21 13 23-1296	EA	1" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	89.27	31.09
23 21 13 23-1297	EA	1-1/2" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	163.56	44.12
23 21 13 23-1298	EA	2" Tee, Straight, 3,000 LB, Screwed Carbon Steel.....	210.90	54.79
23 21 13 23-1299	EA	1/2" Tee, Straight, 6,000 LB, Screwed Carbon Steel.....	70.91	22.77
23 21 13 23-1300	EA	3/4" Tee, Straight, 6,000 LB, Screwed Carbon Steel.....	89.13	26.37
23 21 13 23-1301	EA	1" Tee, Straight, 6,000 LB, Screwed Carbon Steel.....	128.87	31.09
23 21 13 23-1302	EA	1-1/2" Tee, Straight, 6,000 LB, Screwed Carbon Steel.....	208.54	44.12
23 21 13 23-1303	EA	2" Tee, Straight, 6,000 LB, Screwed Carbon Steel.....	354.32	54.79
23 21 13 23-1304 Crosses, Screwed Carbon Steel (23 21 13 23-1242)				
23 21 13 23-1305	EA	1/4" Cross, 2,000 LB, Screwed Carbon Steel.....	75.71	27.40
23 21 13 23-1306	EA	1/2" Cross, 2,000 LB, Screwed Carbon Steel.....	92.12	30.78
23 21 13 23-1307	EA	3/4" Cross, 2,000 LB, Screwed Carbon Steel.....	99.54	32.83
23 21 13 23-1308	EA	1" Cross, 2,000 LB, Screwed Carbon Steel.....	124.80	39.60
23 21 13 23-1309	EA	1-1/2" Cross, 2,000 LB, Screwed Carbon Steel.....	240.70	55.41
23 21 13 23-1310	EA	2" Cross, 2,000 LB, Screwed Carbon Steel.....	316.21	68.44
23 21 13 23-1311	EA	1/2" Cross, 3,000 LB, Screwed Carbon Steel.....	95.85	30.78
23 21 13 23-1312	EA	3/4" Cross, 3,000 LB, Screwed Carbon Steel.....	120.95	32.83
23 21 13 23-1313	EA	1" Cross, 3,000 LB, Screwed Carbon Steel.....	143.54	39.60
23 21 13 23-1314	EA	1-1/2" Cross, 3,000 LB, Screwed Carbon Steel.....	267.74	55.41
23 21 13 23-1315	EA	2" Cross, 3,000 LB, Screwed Carbon Steel.....	365.57	68.44
23 21 13 23-1316	EA	1/2" Cross, 6,000 LB, Screwed Carbon Steel.....	165.61	30.78
23 21 13 23-1317	EA	3/4" Cross, 6,000 LB, Screwed Carbon Steel.....	311.38	32.83
23 21 13 23-1318	EA	1" Cross, 6,000 LB, Screwed Carbon Steel.....	436.97	39.60
23 21 13 23-1319	EA	1-1/2" Cross, 6,000 LB, Screwed Carbon Steel.....	704.07	55.41
23 21 13 23-1320	EA	2" Cross, 6,000 LB, Screwed Carbon Steel.....	757.92	68.44
23 21 13 23-1321 Straight Couplings, Screwed Carbon Steel (23 21 13 23-1242)				
23 21 13 23-1322	EA	1/4" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	29.79	15.60
23 21 13 23-1323	EA	1/2" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	33.55	18.26
23 21 13 23-1324	EA	3/4" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	39.15	20.42
23 21 13 23-1325	EA	1" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	47.02	22.77
23 21 13 23-1326	EA	1-1/2" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	75.92	29.14
23 21 13 23-1327	EA	2" Coupling, Straight, 3,000 LB, Screwed Carbon Steel.....	96.30	37.04
23 21 13 23-1328	EA	1/4" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	38.73	15.60
23 21 13 23-1329	EA	1/2" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	39.21	18.26
23 21 13 23-1330	EA	3/4" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	43.50	20.42
23 21 13 23-1331	EA	1" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	52.81	22.77
23 21 13 23-1332	EA	1-1/2" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	84.77	29.14
23 21 13 23-1333	EA	2" Coupling, Straight, 6,000 LB, Screwed Carbon Steel.....	128.62	37.04
23 21 13 23-1334 Reducing Couplings, Screwed Carbon Steel (23 21 13 23-1242)				
23 21 13 23-1335	EA	1/4" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	31.03	16.63
23 21 13 23-1336	EA	1/2" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	36.48	18.26
23 21 13 23-1337	EA	3/4" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	43.63	20.42
23 21 13 23-1338	EA	1" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	53.23	22.77
23 21 13 23-1339	EA	1-1/2" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	77.53	29.14
23 21 13 23-1340	EA	2" Coupling, Reducing, 3,000 LB, Screwed Carbon Steel.....	105.02	37.04
23 21 13 23-1341	EA	1/2" Coupling, Reducing, 6,000 LB, Screwed Carbon Steel.....	150.99	18.26

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1342	EA	3/4" Coupling, Reducing, 6,000 LB, Screwed Carbon Steel		154.26	20.42
23 21 13 23-1343	EA	1" Coupling, Reducing, 6,000 LB, Screwed Carbon Steel		182.19	22.77
23 21 13 23-1344	EA	1-1/2" Coupling, Reducing, 6,000 LB, Screwed Carbon Steel		268.27	29.14
23 21 13 23-1345	EA	2" Coupling, Reducing, 6,000 LB, Screwed Carbon Steel		393.72	37.04
23 21 13 23-1346 Caps, Screwed Carbon Steel (23 21 13 23-1242)					
23 21 13 23-1347	EA	1/4" Cap, 3,000 LB, Screwed Carbon Steel		15.76	6.97
23 21 13 23-1348	EA	1/2" Cap, 3,000 LB, Screwed Carbon Steel		18.01	8.10
23 21 13 23-1349	EA	3/4" Cap, 3,000 LB, Screwed Carbon Steel		21.77	9.13
23 21 13 23-1350	EA	1" Cap, 3,000 LB, Screwed Carbon Steel		27.64	10.16
23 21 13 23-1351	EA	1-1/2" Cap, 3,000 LB, Screwed Carbon Steel		39.22	12.93
23 21 13 23-1352	EA	2" Cap, 3,000 LB, Screwed Carbon Steel		55.39	16.52
23 21 13 23-1353	EA	1/4" Cap, 6,000 LB, Screwed Carbon Steel		26.49	6.97
23 21 13 23-1354	EA	1/2" Cap, 6,000 LB, Screwed Carbon Steel		24.89	8.10
23 21 13 23-1355	EA	3/4" Cap, 6,000 LB, Screwed Carbon Steel		32.97	9.13
23 21 13 23-1356	EA	1" Cap, 6,000 LB, Screwed Carbon Steel		35.82	10.16
23 21 13 23-1357	EA	1-1/2" Cap, 6,000 LB, Screwed Carbon Steel		72.56	12.93
23 21 13 23-1358	EA	2" Cap, 6,000 LB, Screwed Carbon Steel		87.86	16.52
23 21 13 23-1359 Nipples, Screwed Carbon Steel (23 21 13 23-1242)					
23 21 13 23-1360	EA	1/4" Nipple, 2" Long, Screwed Carbon Steel		18.59	9.34
23 21 13 23-1361	EA	1/2" Nipple, 2" Long, Screwed Carbon Steel		18.73	9.74
23 21 13 23-1362	EA	3/4" Nipple, 2" Long, Screwed Carbon Steel		18.47	9.74
23 21 13 23-1363	EA	1" Nipple, 2" Long, Screwed Carbon Steel		21.22	10.57
23 21 13 23-1364	EA	1-1/2" Nipple, 2" Long, Screwed Carbon Steel		25.30	11.39
23 21 13 23-1365	EA	2" Nipple, 2" Long, Screwed Carbon Steel		28.25	14.67
23 21 13 23-1366	EA	1/4" Nipple, 4" Long, Screwed Carbon Steel		20.64	9.34
23 21 13 23-1367	EA	1/2" Nipple, 4" Long, Screwed Carbon Steel		20.36	9.74
23 21 13 23-1368	EA	3/4" Nipple, 4" Long, Screwed Carbon Steel		20.30	9.74
23 21 13 23-1369	EA	1" Nipple, 4" Long, Screwed Carbon Steel		23.70	10.57
23 21 13 23-1370	EA	1-1/2" Nipple, 4" Long, Screwed Carbon Steel		29.72	11.39
23 21 13 23-1371	EA	2" Nipple, 4" Long, Screwed Carbon Steel		34.72	14.67
23 21 13 23-1372	EA	1/4" Nipple, 6" Long, Screwed Carbon Steel		25.54	9.34
23 21 13 23-1373	EA	1/2" Nipple, 6" Long, Screwed Carbon Steel		22.94	9.74
23 21 13 23-1374	EA	3/4" Nipple, 6" Long, Screwed Carbon Steel		23.18	9.74
23 21 13 23-1375	EA	1" Nipple, 6" Long, Screwed Carbon Steel		27.26	10.57
23 21 13 23-1376	EA	1-1/2" Nipple, 6" Long, Screwed Carbon Steel		35.76	11.39
23 21 13 23-1377	EA	2" Nipple, 6" Long, Screwed Carbon Steel		40.07	14.67
23 21 13 23-1378 Unions, Screwed Carbon Steel (23 21 13 23-1242)					
23 21 13 23-1379	EA	1/4" Union, 3,000 LB, Screwed Carbon Steel		38.04	22.67
23 21 13 23-1380	EA	1/2" Union, 3,000 LB, Screwed Carbon Steel		37.70	22.77
23 21 13 23-1381	EA	3/4" Union, 3,000 LB, Screwed Carbon Steel		43.06	26.37
23 21 13 23-1382	EA	1" Union, 3,000 LB, Screwed Carbon Steel		51.89	31.09
23 21 13 23-1383	EA	1-1/2" Union, 3,000 LB, Screwed Carbon Steel		75.05	44.12
23 21 13 23-1384	EA	2" Union, 3,000 LB, Screwed Carbon Steel		93.27	54.79
23 21 13 23-1385	EA	1/4" Union, 6,000 LB, Screwed Carbon Steel		85.53	22.67
23 21 13 23-1386	EA	1/2" Union, 6,000 LB, Screwed Carbon Steel		95.12	22.77
23 21 13 23-1387	EA	3/4" Union, 6,000 LB, Screwed Carbon Steel		112.60	26.37
23 21 13 23-1388	EA	1" Union, 6,000 LB, Screwed Carbon Steel		137.59	31.09
23 21 13 23-1389	EA	1-1/2" Union, 6,000 LB, Screwed Carbon Steel		250.27	44.12
23 21 13 23-1390	EA	2" Union, 6,000 LB, Screwed Carbon Steel		308.93	54.79
23 21 13 23-1391 Weld Neck Flanges, Screwed Carbon Steel (23 21 13 23-1242)					
23 21 13 23-1392	EA	1/2" Flange, 150 LB, Screwed Carbon Steel		88.84	42.37
23 21 13 23-1393	EA	3/4" Flange, 150 LB, Screwed Carbon Steel		92.72	44.43
23 21 13 23-1394	EA	1" Flange, 150 LB, Screwed Carbon Steel		95.61	46.37
23 21 13 23-1395	EA	1-1/2" Flange, 150 LB, Screwed Carbon Steel		105.30	52.23
23 21 13 23-1396	EA	2" Flange, 150 LB, Screwed Carbon Steel		108.71	54.48
23 21 13 23-1397	EA	1/2" Flange, 300 LB, Screwed Carbon Steel		90.44	42.37
		For Ring Type Joint, Add		26.86	
		For Blind Flange, Deduct		-30.80	
23 21 13 23-1398	EA	3/4" Flange, 300 LB, Screwed Carbon Steel		94.43	44.43
		For Ring Type Joint, Add		27.77	
		For Blind Flange, Deduct		-32.22	
23 21 13 23-1399	EA	1" Flange, 300 LB, Screwed Carbon Steel		98.19	46.37
		For Ring Type Joint, Add		28.64	
		For Blind Flange, Deduct		-33.55	
23 21 13 23-1400	EA	1-1/2" Flange, 300 LB, Screwed Carbon Steel		111.47	52.23
		For Ring Type Joint, Add		33.14	
		For Blind Flange, Deduct		-37.96	
23 21 13 23-1401	EA	2" Flange, 300 LB, Screwed Carbon Steel		114.88	54.48
		For Ring Type Joint, Add		33.14	
		For Blind Flange, Deduct		-39.32	
23 21 13 23-1402	EA	1/2" Flange, 600 LB, Screwed Carbon Steel		101.01	42.37
		For Ring Type Joint, Add		37.43	
		For Blind Flange, Deduct		-32.92	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1403	EA		3/4" Flange, 600 LB, Screwed Carbon Steel <i>For Ring Type Joint, Add</i> <i>For Blind Flange, Deduct</i>	104.09 37.43 -34.15	44.43
23 21 13 23-1404	EA		1" Flange, 600 LB, Screwed Carbon Steel <i>For Ring Type Joint, Add</i> <i>For Blind Flange, Deduct</i>	108.68 39.13 -35.65	46.37
23 21 13 23-1405	EA		1-1/2" Flange, 600 LB, Screwed Carbon Steel <i>For Ring Type Joint, Add</i> <i>For Blind Flange, Deduct</i>	124.46 46.13 -40.56	52.23
23 21 13 23-1406	EA		2" Flange, 600 LB, Screwed Carbon Steel <i>For Ring Type Joint, Add</i> <i>For Blind Flange, Deduct</i>	124.68 42.94 -41.28	54.48
23 21 13 23-1407			Square Head Plugs, Screwed Carbon Steel (23 21 13 23-1242)		
23 21 13 23-1408	EA		1/4" Square Head Plug, Screwed Carbon Steel	6.69	2.87
23 21 13 23-1409	EA		1/2" Square Head Plug, Screwed Carbon Steel	7.99	3.39
23 21 13 23-1410	EA		3/4" Square Head Plug, Screwed Carbon Steel	9.42	3.90
23 21 13 23-1411	EA		1" Square Head Plug, Screwed Carbon Steel	13.67	5.74
23 21 13 23-1412	EA		1-1/2" Square Head Plug, Screwed Carbon Steel	19.91	5.74
23 21 13 23-1413	EA		2" Square Head Plug, Screwed Carbon Steel	30.03	7.49
23 21 13 23-1414			Hex Head Plugs, Screwed Carbon Steel (23 21 13 23-1242)		
23 21 13 23-1415	EA		1/4" Hex Head Plug, Screwed Carbon Steel	6.07	2.87
23 21 13 23-1416	EA		1/2" Hex Head Plug, Screwed Carbon Steel	7.42	3.39
23 21 13 23-1417	EA		3/4" Hex Head Plug, Screwed Carbon Steel	9.05	3.90
23 21 13 23-1418	EA		1" Hex Head Plug, Screwed Carbon Steel	13.34	5.74
23 21 13 23-1419	EA		1-1/2" Hex Head Plug, Screwed Carbon Steel	18.53	5.74
23 21 13 23-1420	EA		2" Hex Head Plug, Screwed Carbon Steel	31.00	7.49
23 21 13 23-1421			Round Head Plugs, Screwed Carbon Steel (23 21 13 23-1242)		
23 21 13 23-1422	EA		1/4" Round Head Plug, Screwed Carbon Steel	8.09	2.87
23 21 13 23-1423	EA		1/2" Round Head Plug, Screwed Carbon Steel	8.08	3.39
23 21 13 23-1424	EA		3/4" Round Head Plug, Screwed Carbon Steel	9.16	3.90
23 21 13 23-1425	EA		1" Round Head Plug, Screwed Carbon Steel	13.90	5.74
23 21 13 23-1426	EA		1-1/2" Round Head Plug, Screwed Carbon Steel	21.64	5.74
23 21 13 23-1427	EA		2" Round Head Plug, Screwed Carbon Steel	30.63	7.49
23 21 13 23-1428			Hexagon Bushings, Screwed Carbon Steel (23 21 13 23-1242)		
23 21 13 23-1429	EA		1/4" Hex Bushing, Screwed Carbon Steel	6.53	2.87
23 21 13 23-1430	EA		1/2" Hex Bushing, Screwed Carbon Steel	7.39	3.39
23 21 13 23-1431	EA		3/4" Hex Bushing, Screwed Carbon Steel	8.89	3.90
23 21 13 23-1432	EA		1" Hex Bushing, Screwed Carbon Steel	13.79	5.74
23 21 13 23-1433	EA		1-1/2" Hex Bushing, Screwed Carbon Steel	18.42	5.74
23 21 13 23-1434	EA		2" Hex Bushing, Screwed Carbon Steel	29.56	7.49
23 21 13 23-1435			90 Degree Street Elbows, Screwed Carbon Steel (23 21 13 23-1242)		
23 21 13 23-1436	EA		1/4" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	45.97	15.60
23 21 13 23-1437	EA		1/2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	51.58	18.26
23 21 13 23-1438	EA		3/4" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	61.78	20.42
23 21 13 23-1439	EA		1" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	74.04	22.77
23 21 13 23-1440	EA		1-1/2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	128.94	29.14
23 21 13 23-1441	EA		2" 90 Degree Elbow, 3,000 LB, Screwed Carbon Steel	177.25	37.04
23 21 13 23-1442	EA		1/2" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel	84.04	18.26
23 21 13 23-1443	EA		3/4" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel	127.77	20.42
23 21 13 23-1444	EA		1" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel	184.47	22.77
23 21 13 23-1445	EA		1-1/2" 90 Degree Elbow, 6,000 LB, Screwed Carbon Steel	432.72	29.14
23 21 13 23-1446			Screwed Carbon Steel Laterals (23 21 13 23-1242)		
23 21 13 23-1447	EA		1/2" Lateral, Straight, 3,000 LB, Screwed Carbon Steel	257.77	22.77
23 21 13 23-1448	EA		3/4" Lateral, Straight, 3,000 LB, Screwed Carbon Steel	311.64	26.37
23 21 13 23-1449	EA		1" Lateral, Straight, 3,000 LB, Screwed Carbon Steel	382.96	31.09
23 21 13 23-1450	EA		1-1/2" Lateral, Straight, 3,000 LB, Screwed Carbon Steel	486.13	44.12
23 21 13 23-1451	EA		2" Lateral, Straight, 3,000 LB, Screwed Carbon Steel	607.02	54.79
23 21 13 23-1452	EA		1/2" Lateral, Straight, 6,000 LB, Screwed Carbon Steel	333.60	22.77
23 21 13 23-1453	EA		3/4" Lateral, Straight, 6,000 LB, Screwed Carbon Steel	424.40	26.37
23 21 13 23-1454	EA		1" Lateral, Straight, 6,000 LB, Screwed Carbon Steel	503.53	31.09
23 21 13 23-1455	EA		1-1/2" Lateral, Straight, 6,000 LB, Screwed Carbon Steel	707.80	44.12
23 21 13 23-1456			Grooved-Joint Pipe (23 21 13 23) Note: Includes grooving of pipe. Excludes hangers, elbow, tee, reducer fitting or couplings.		
23 21 13 23-1457			Schedule 10 Black Grooved Pipe (23 21 13 23-1456)		
23 21 13 23-1458	LF		2" Black Schedule 10 Grooved Pipe	35.94	13.03
23 21 13 23-1459	LF		2-1/2" Black Schedule 10 Grooved Pipe	48.12	17.86

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1460	LF	3" Black Schedule 10 Grooved Pipe.....	54.32	19.80
23 21 13 23-1461	LF	3-1/2" Black Schedule 10 Grooved Pipe.....	62.35	20.52
23 21 13 23-1462	LF	4" Black Schedule 10 Grooved Pipe.....	65.72	22.27
23 21 13 23-1463	LF	5" Black Schedule 10 Grooved Pipe.....	97.72	27.30
23 21 13 23-1464	LF	6" Black Schedule 10 Grooved Pipe.....	121.72	38.79
23 21 13 23-1465	LF	8" Black Schedule 10 Grooved Pipe.....	177.51	43.50
23 21 13 23-1466	LF	10" Black Schedule 10 Grooved Pipe.....	224.99	52.43
23 21 13 23-1467	LF	12" Black Schedule 10 Grooved Pipe.....	260.81	59.41
23 21 13 23-1468 Schedule 40 Black Grooved Pipe (23 21 13 23-1456)				
23 21 13 23-1469	LF	3/4" Black Schedule 40 Grooved Pipe.....	21.47	7.90
23 21 13 23-1470	LF	1" Black Schedule 40 Grooved Pipe.....	24.26	8.93
23 21 13 23-1471	LF	1-1/4" Black Schedule 40 Grooved Pipe.....	28.12	9.64
23 21 13 23-1472	LF	1-1/2" Black Schedule 40 Grooved Pipe.....	32.00	10.98
23 21 13 23-1473	LF	2" Black Schedule 40 Grooved Pipe.....	40.17	13.96
23 21 13 23-1474	LF	2-1/2" Black Schedule 40 Grooved Pipe.....	56.34	19.09
23 21 13 23-1475	LF	3" Black Schedule 40 Grooved Pipe.....	67.40	21.76
23 21 13 23-1476	LF	4" Black Schedule 40 Grooved Pipe.....	85.68	24.21
23 21 13 23-1477	LF	5" Black Schedule 40 Grooved Pipe.....	122.56	29.44
23 21 13 23-1478	LF	6" Black Schedule 40 Grooved Pipe.....	161.55	42.48
23 21 13 23-1479	LF	8" Black Schedule 40 Grooved Pipe.....	224.13	48.13
23 21 13 23-1480	LF	10" Black Schedule 40 Grooved Pipe.....	319.49	57.46
23 21 13 23-1481	LF	12" Black Schedule 40 Grooved Pipe.....	378.36	65.97
23 21 13 23-1482	LF	14" Black Schedule 40 Grooved Pipe.....	497.09	89.17
23 21 13 23-1483	LF	16" Black Schedule 40 Grooved Pipe.....	574.93	104.86
23 21 13 23-1484	LF	18" Black Schedule 40 Grooved Pipe.....	717.11	127.33
23 21 13 23-1485	LF	20" Black Schedule 40 Grooved Pipe.....	824.87	148.47
23 21 13 23-1486	LF	24" Black Schedule 40 Grooved Pipe.....	1,097.27	178.23
23 21 13 23-1487 Schedule 80 Black Grooved Pipe (23 21 13 23-1456)				
23 21 13 23-1488	LF	3/4" Black Schedule 80 Grooved Pipe.....	23.55	8.62
23 21 13 23-1489	LF	1" Black Schedule 80 Grooved Pipe.....	26.60	9.13
23 21 13 23-1490	LF	1-1/4" Black Schedule 80 Grooved Pipe.....	31.94	10.16
23 21 13 23-1491	LF	1-1/2" Black Schedule 80 Grooved Pipe.....	36.55	11.39
23 21 13 23-1492	LF	2" Black Schedule 80 Grooved Pipe.....	47.34	14.67
23 21 13 23-1493	LF	2-1/2" Black Schedule 80 Grooved Pipe.....	67.32	20.21
23 21 13 23-1494	LF	3" Black Schedule 80 Grooved Pipe.....	81.90	22.67
23 21 13 23-1495	LF	4" Black Schedule 80 Grooved Pipe.....	107.32	24.73
23 21 13 23-1496	LF	5" Black Schedule 80 Grooved Pipe.....	171.85	31.09
23 21 13 23-1497	LF	6" Black Schedule 80 Grooved Pipe.....	218.96	44.53
23 21 13 23-1498	LF	8" Black Schedule 80 Grooved Pipe.....	346.30	50.89
23 21 13 23-1499	LF	10" Black Schedule 80 Grooved Pipe.....	433.27	61.46
23 21 13 23-1500	LF	12" Black Schedule 80 Grooved Pipe.....	445.11	74.29
23 21 13 23-1501 Schedule 40 Galvanized Grooved Pipe (23 21 13 23-1456)				
23 21 13 23-1502	LF	3/4" Galvanized Schedule 40 Grooved Pipe.....	19.35	7.90
23 21 13 23-1503	LF	1" Galvanized Schedule 40 Grooved Pipe.....	22.54	8.93
23 21 13 23-1504	LF	1-1/4" Galvanized Schedule 40 Grooved Pipe.....	25.24	9.64
23 21 13 23-1505	LF	1-1/2" Galvanized Schedule 40 Grooved Pipe.....	28.74	10.98
23 21 13 23-1506	LF	2" Galvanized Schedule 40 Grooved Pipe.....	36.30	13.96
23 21 13 23-1507	LF	2-1/2" Galvanized Schedule 40 Grooved Pipe.....	51.05	19.09
23 21 13 23-1508	LF	3" Galvanized Schedule 40 Grooved Pipe.....	61.01	21.76
23 21 13 23-1509	LF	4" Galvanized Schedule 40 Grooved Pipe.....	76.56	24.21
23 21 13 23-1510	LF	5" Galvanized Schedule 40 Grooved Pipe.....	109.67	29.44
23 21 13 23-1511	LF	6" Galvanized Schedule 40 Grooved Pipe.....	146.64	42.48
23 21 13 23-1512	LF	8" Galvanized Schedule 40 Grooved Pipe.....	198.55	48.13
23 21 13 23-1513	LF	10" Galvanized Schedule 40 Grooved Pipe.....	284.72	57.46
23 21 13 23-1514	LF	12" Galvanized Schedule 40 Grooved Pipe.....	337.18	65.97
23 21 13 23-1515 Schedule 80 Galvanized Grooved Pipe (23 21 13 23-1456)				
23 21 13 23-1516	LF	3/4" Galvanized Schedule 80 Grooved Pipe.....	20.72	8.62
23 21 13 23-1517	LF	1" Galvanized Schedule 80 Grooved Pipe.....	27.95	9.13
23 21 13 23-1518	LF	1-1/4" Galvanized Schedule 80 Grooved Pipe.....	27.86	10.16
23 21 13 23-1519	LF	1-1/2" Galvanized Schedule 80 Grooved Pipe.....	36.93	12.11
23 21 13 23-1520	LF	2" Galvanized Schedule 80 Grooved Pipe.....	41.33	14.67
23 21 13 23-1521	LF	2-1/2" Galvanized Schedule 80 Grooved Pipe.....	58.82	20.21
23 21 13 23-1522	LF	3" Galvanized Schedule 80 Grooved Pipe.....	71.46	22.67
23 21 13 23-1523	LF	4" Galvanized Schedule 80 Grooved Pipe.....	91.72	24.73
23 21 13 23-1524	LF	5" Galvanized Schedule 80 Grooved Pipe.....	140.95	31.09
23 21 13 23-1525	LF	6" Galvanized Schedule 80 Grooved Pipe.....	180.76	44.53
23 21 13 23-1526	LF	8" Galvanized Schedule 80 Grooved Pipe.....	277.52	50.89
23 21 13 23-1527	LF	10" Galvanized Schedule 80 Grooved Pipe.....	329.90	61.46
23 21 13 23-1528	LF	12" Galvanized Schedule 80 Grooved Pipe.....	358.95	74.29



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1529			Painted Grooved-Joint Pipe Fittings (23 21 13 23)		
			Note: Couplings are not included with fittings.		
23 21 13 23-1530			Grooved Elbows (23 21 13 23-1529)		
23 21 13 23-1531			90 Degree Grooved Elbows (23 21 13 23-1530)		
			Note: Victaulic No. 10		
23 21 13 23-1532	EA		3/4", Ductile Iron, Grooved 90 Degree Elbow	89.88	11.19
			For Galvanized Fittings, Add	24.13	
23 21 13 23-1533	EA		1", Ductile Iron, Grooved 90 Degree Elbow	89.88	11.19
			For Galvanized Fittings, Add	24.13	
23 21 13 23-1534	EA		1-1/4", Ductile Iron, Grooved 90 Degree Elbow	94.07	13.96
			For Galvanized Fittings, Add	24.13	
23 21 13 23-1535	EA		1-1/2", Ductile Iron, Grooved 90 Degree Elbow	98.51	16.93
			For Galvanized Fittings, Add	24.13	
23 21 13 23-1536	EA		2", Ductile Iron, Grooved 90 Degree Elbow	106.65	22.37
			For Galvanized Fittings, Add	24.13	
23 21 13 23-1537	EA		2-1/2", Ductile Iron, Grooved 90 Degree Elbow	113.96	27.30
			For Galvanized Fittings, Add	24.13	
23 21 13 23-1538	EA		3", Ductile Iron, Grooved 90 Degree Elbow	179.39	33.04
			For Galvanized Fittings, Add	42.86	
23 21 13 23-1539	EA		4", Ductile Iron, Grooved 90 Degree Elbow	206.82	43.61
			For Galvanized Fittings, Add	46.68	
23 21 13 23-1540	EA		5", Ductile Iron, Grooved 90 Degree Elbow	426.04	54.48
			For Galvanized Fittings, Add	113.64	
23 21 13 23-1541	EA		6", Ductile Iron, Grooved 90 Degree Elbow	507.07	71.31
			For Galvanized Fittings, Add	132.06	
23 21 13 23-1542	EA		8", Ductile Iron, Grooved 90 Degree Elbow	969.50	84.86
			For Galvanized Fittings, Add	277.95	
23 21 13 23-1543	EA		10", Ductile Iron, Grooved 90 Degree Elbow	1,460.71	99.01
			For Galvanized Fittings, Add	433.05	
23 21 13 23-1544	EA		12", Ductile Iron, Grooved 90 Degree Elbow	2,281.47	118.81
			For Galvanized Fittings, Add	694.10	
23 21 13 23-1545	EA		14", Steel, Grooved 90 Degree Elbow	4,575.30	134.10
			For Galvanized Fittings, Add	1,443.48	
23 21 13 23-1546	EA		16", Steel, Grooved 90 Degree Elbow	5,946.32	148.47
			For Galvanized Fittings, Add	1,888.81	
23 21 13 23-1547	EA		18", Steel, Grooved 90 Degree Elbow	7,502.46	162.21
			For Galvanized Fittings, Add	2,395.57	
23 21 13 23-1548	EA		20", Steel, Grooved 90 Degree Elbow	9,792.43	168.68
			For Galvanized Fittings, Add	3,148.02	
23 21 13 23-1549	EA		24", Steel, Grooved 90 Degree Elbow	14,026.47	199.47
			For Galvanized Fittings, Add	4,530.08	
23 21 13 23-1550			45 Degree Grooved Elbows (23 21 13 23-1530)		
			Note: Victaulic No. 11		
23 21 13 23-1551	EA		3/4", Ductile Iron, Grooved 45 Degree Elbow	89.83	11.19
			For Galvanized Fittings, Add	17.53	
23 21 13 23-1552	EA		1", Ductile Iron, Grooved 45 Degree Elbow	89.83	11.19
			For Galvanized Fittings, Add	17.53	
23 21 13 23-1553	EA		1-1/4", Ductile Iron, Grooved 45 Degree Elbow	94.02	13.96
			For Galvanized Fittings, Add	17.53	
23 21 13 23-1554	EA		1-1/2", Ductile Iron, Grooved 45 Degree Elbow	98.46	16.93
			For Galvanized Fittings, Add	17.53	
23 21 13 23-1555	EA		2", Ductile Iron, Grooved 45 Degree Elbow	106.60	22.37
			For Galvanized Fittings, Add	17.53	
23 21 13 23-1556	EA		2-1/2", Ductile Iron, Grooved 45 Degree Elbow	113.91	27.30
			For Galvanized Fittings, Add	17.53	
23 21 13 23-1557	EA		3", Ductile Iron, Grooved 45 Degree Elbow	179.34	33.04
			For Galvanized Fittings, Add	31.16	
23 21 13 23-1558	EA		4", Ductile Iron, Grooved 45 Degree Elbow	206.82	43.61
			For Galvanized Fittings, Add	33.95	
23 21 13 23-1559	EA		5", Ductile Iron, Grooved 45 Degree Elbow	426.04	54.48
			For Galvanized Fittings, Add	82.64	
23 21 13 23-1560	EA		6", Ductile Iron, Grooved 45 Degree Elbow	507.07	71.31
			For Galvanized Fittings, Add	96.05	
23 21 13 23-1561	EA		8", Ductile Iron, Grooved 45 Degree Elbow	969.50	84.86
			For Galvanized Fittings, Add	202.14	
23 21 13 23-1562	EA		10", Ductile Iron, Grooved 45 Degree Elbow	1,460.71	99.01
			For Galvanized Fittings, Add	314.94	
23 21 13 23-1563	EA		12", Ductile Iron, Grooved 45 Degree Elbow	2,281.47	118.81
			For Galvanized Fittings, Add	504.80	
23 21 13 23-1564	EA		14", Steel, Grooved 45 Degree Elbow	4,575.30	134.10
			For Galvanized Fittings, Add	1,049.81	
23 21 13 23-1565	EA		16", Steel, Grooved 45 Degree Elbow	5,946.32	148.47
			For Galvanized Fittings, Add	1,373.68	
23 21 13 23-1566	EA		18", Steel, Grooved 45 Degree Elbow	7,502.46	162.21
			For Galvanized Fittings, Add	1,742.23	
23 21 13 23-1567	EA		20", Steel, Grooved 45 Degree Elbow	9,792.88	168.99
			For Galvanized Fittings, Add	2,289.47	
23 21 13 23-1568	EA		24", Steel, Grooved 45 Degree Elbow	14,026.47	199.47
			For Galvanized Fittings, Add	3,294.60	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1569		22-1/2 Degree Grooved Elbows (23 21 13 23-1530) Note: Victaulic No. 12		
23 21 13 23-1570	EA	1", Ductile Iron, Grooved 22-1/2 Degree Elbow	94.64	11.19
		For Galvanized Fittings, Add	18.69	
23 21 13 23-1571	EA	1-1/4", Ductile Iron, Grooved 22-1/2 Degree Elbow	98.83	13.96
		For Galvanized Fittings, Add	18.69	
23 21 13 23-1572	EA	1-1/2", Ductile Iron, Grooved 22-1/2 Degree Elbow	103.27	16.93
		For Galvanized Fittings, Add	18.69	
23 21 13 23-1573	EA	2", Ductile Iron, Grooved 22-1/2 Degree Elbow	111.41	22.37
		For Galvanized Fittings, Add	18.69	
23 21 13 23-1574	EA	2-1/2", Ductile Iron, Grooved 22-1/2 Degree Elbow	118.72	27.30
		For Galvanized Fittings, Add	18.69	
23 21 13 23-1575	EA	3", Ductile Iron, Grooved 22-1/2 Degree Elbow	163.41	33.04
		For Galvanized Fittings, Add	27.34	
23 21 13 23-1576	EA	4", Ductile Iron, Grooved 22-1/2 Degree Elbow	218.08	43.61
		For Galvanized Fittings, Add	36.65	
23 21 13 23-1577	EA	5", Ductile Iron, Grooved 22-1/2 Degree Elbow	555.28	54.48
		For Galvanized Fittings, Add	113.66	
23 21 13 23-1578	EA	6", Ductile Iron, Grooved 22-1/2 Degree Elbow	539.52	71.31
		For Galvanized Fittings, Add	103.83	
23 21 13 23-1579	EA	8", Ductile Iron, Grooved 22-1/2 Degree Elbow	1,032.47	84.86
		For Galvanized Fittings, Add	217.26	
23 21 13 23-1580	EA	10", Steel, Grooved 22-1/2 Degree Elbow	1,391.22	99.01
		For Galvanized Fittings, Add	298.26	
23 21 13 23-1581	EA	12", Steel, Grooved 22-1/2 Degree Elbow	1,858.26	118.81
		For Galvanized Fittings, Add	403.23	
23 21 13 23-1582	EA	14", Steel, Grooved 22-1/2 Degree Elbow	2,141.68	134.10
		For Galvanized Fittings, Add	465.74	
23 21 13 23-1583	EA	16", Steel, Grooved 22-1/2 Degree Elbow	2,550.10	148.47
		For Galvanized Fittings, Add	558.59	
23 21 13 23-1584	EA	18", Steel, Grooved 22-1/2 Degree Elbow	3,061.89	162.21
		For Galvanized Fittings, Add	676.50	
23 21 13 23-1585	EA	20", Steel, Grooved 22-1/2 Degree Elbow	3,585.45	168.68
		For Galvanized Fittings, Add	799.80	
23 21 13 23-1586	EA	24", Steel, Grooved 22-1/2 Degree Elbow	4,777.10	199.47
		For Galvanized Fittings, Add	1,074.75	
23 21 13 23-1587		11-1/4 Degree Grooved Elbows (23 21 13 23-1530) Note: Victaulic No. 13		
23 21 13 23-1588	EA	1", Ductile Iron, Grooved 11-1/4 Degree Elbow	94.64	11.19
		For Galvanized Fittings, Add	18.69	
23 21 13 23-1589	EA	1-1/4", Ductile Iron, Grooved 11-1/4 Degree Elbow	98.83	13.96
		For Galvanized Fittings, Add	18.69	
23 21 13 23-1590	EA	1-1/2", Ductile Iron, Grooved 11-1/4 Degree Elbow	103.27	16.93
		For Galvanized Fittings, Add	18.69	
23 21 13 23-1591	EA	2", Ductile Iron, Grooved 11-1/4 Degree Elbow	111.41	22.37
		For Galvanized Fittings, Add	18.69	
23 21 13 23-1592	EA	2-1/2", Ductile Iron, Grooved 11-1/4 Degree Elbow	118.72	27.30
		For Galvanized Fittings, Add	18.69	
23 21 13 23-1593	EA	3", Ductile Iron, Grooved 11-1/4 Degree Elbow	163.40	33.04
		For Galvanized Fittings, Add	27.33	
23 21 13 23-1594	EA	4", Ductile Iron, Grooved 11-1/4 Degree Elbow	218.07	43.61
		For Galvanized Fittings, Add	36.65	
23 21 13 23-1595	EA	5", Ductile Iron, Grooved 11-1/4 Degree Elbow	555.26	54.48
		For Galvanized Fittings, Add	113.66	
23 21 13 23-1596	EA	6", Ductile Iron, Grooved 11-1/4 Degree Elbow	539.50	71.31
		For Galvanized Fittings, Add	103.83	
23 21 13 23-1597	EA	8", Ductile Iron, Grooved 11-1/4 Degree Elbow	1,032.41	84.86
		For Galvanized Fittings, Add	217.24	
23 21 13 23-1598	EA	10", Steel, Grooved 11-1/4 Degree Elbow	1,391.15	99.01
		For Galvanized Fittings, Add	298.25	
23 21 13 23-1599	EA	12", Steel, Grooved 11-1/4 Degree Elbow	1,858.16	118.81
		For Galvanized Fittings, Add	403.20	
23 21 13 23-1600	EA	14", Steel, Grooved 11-1/4 Degree Elbow	2,141.58	134.10
		For Galvanized Fittings, Add	465.71	
23 21 13 23-1601	EA	16", Steel, Grooved 11-1/4 Degree Elbow	2,550.01	148.57
		For Galvanized Fittings, Add	558.56	
23 21 13 23-1602	EA	18", Steel, Grooved 11-1/4 Degree Elbow	3,061.71	162.21
		For Galvanized Fittings, Add	676.46	
23 21 13 23-1603	EA	20", Steel, Grooved 11-1/4 Degree Elbow	3,585.27	168.68
		For Galvanized Fittings, Add	799.75	
23 21 13 23-1604	EA	24", Steel, Grooved 11-1/4 Degree Elbow	4,776.86	199.47
		For Galvanized Fittings, Add	1,074.70	
23 21 13 23-1605		90 Degree Grooved Long Radius Elbows (23 21 13 23-1530) Note: Victaulic No. 100		
23 21 13 23-1606	EA	2", Ductile Iron, Grooved 90 Degree Long Radius Elbow	200.69	22.37
		For Galvanized Fittings, Add	40.12	
23 21 13 23-1607	EA	2-1/2", Ductile Iron, Grooved 90 Degree Long Radius Elbow	525.84	27.30
		For Galvanized Fittings, Add	116.40	
23 21 13 23-1608	EA	3", Ductile Iron, Grooved 90 Degree Long Radius Elbow	216.66	33.04
		For Galvanized Fittings, Add	40.12	

**Heating, Ventilating, and Air-Conditioning (HVAC)****23**

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21**23**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1609	EA		4", Ductile Iron, Grooved 90 Degree Long Radius Elbow	315.74	43.61
			For Galvanized Fittings, Add	60.09	
23 21 13 23-1610	EA		5", Ductile Iron, Grooved 90 Degree Long Radius Elbow	1,365.05	54.48
			For Galvanized Fittings, Add	308.01	
23 21 13 23-1611	EA		6", Ductile Iron, Grooved 90 Degree Long Radius Elbow	839.35	71.31
			For Galvanized Fittings, Add	175.79	
23 21 13 23-1612	EA		8", Ductile Iron, Grooved, 90 Degree Long Radius Elbow	1,884.18	84.86
			For Galvanized Fittings, Add	421.67	
23 21 13 23-1613	EA		10", Ductile Iron, Grooved 90 Degree Long Radius Elbow	3,791.32	99.01
			For Galvanized Fittings, Add	874.29	
23 21 13 23-1614	EA		12", Ductile Iron, Grooved 90 Degree Long Radius Elbow	4,522.26	118.81
			For Galvanized Fittings, Add	1,042.59	
23 21 13 23-1615			Grooved Tees, Wyes And Crosses (23 21 13 23-1529)		
23 21 13 23-1616			Grooved Tees (23 21 13 23-1615)		
			Note: Victaulic No. 20		
23 21 13 23-1617	EA		3/4", Ductile Iron, Grooved Tee	133.78	14.67
			For Galvanized Fittings, Add	33.52	
23 21 13 23-1618	EA		1", Ductile Iron, Grooved Tee	137.12	16.93
			For Galvanized Fittings, Add	33.52	
23 21 13 23-1619	EA		1-1/4", Ductile Iron, Grooved Tee	142.77	20.73
			For Galvanized Fittings, Add	33.52	
23 21 13 23-1620	EA		1-1/2", Ductile Iron, Grooved Tee	149.82	25.44
			For Galvanized Fittings, Add	33.52	
23 21 13 23-1621	EA		2", Ductile Iron, Grooved Tee	161.04	32.94
			For Galvanized Fittings, Add	33.52	
23 21 13 23-1622	EA		2-1/2", Ductile Iron, Grooved Tee	172.23	40.33
			For Galvanized Fittings, Add	33.52	
23 21 13 23-1623	EA		3", Ductile Iron, Grooved Tee	230.76	49.56
			For Galvanized Fittings, Add	46.95	
23 21 13 23-1624	EA		4", Ductile Iron, Grooved Tee	336.17	64.13
			For Galvanized Fittings, Add	72.02	
23 21 13 23-1625	EA		5", Ductile Iron, Grooved Tee	688.89	83.83
			For Galvanized Fittings, Add	168.96	
23 21 13 23-1626	EA		6", Ductile Iron, Grooved Tee	808.10	104.86
			For Galvanized Fittings, Add	195.28	
23 21 13 23-1627	EA		8", Ductile Iron, Grooved Tee	1,612.73	127.33
			For Galvanized Fittings, Add	426.56	
23 21 13 23-1628	EA		10", Ductile Iron, Grooved Tee	2,761.72	148.47
			For Galvanized Fittings, Add	761.72	
23 21 13 23-1629	EA		12", Ductile Iron, Grooved Tee	3,821.89	178.23
			For Galvanized Fittings, Add	1,066.41	
23 21 13 23-1630	EA		14", Steel, Grooved Tee	4,174.73	198.03
			For Galvanized Fittings, Add	1,163.35	
23 21 13 23-1631	EA		16", Steel, Grooved Tee	5,238.21	199.15
			For Galvanized Fittings, Add	1,481.89	
23 21 13 23-1632	EA		18", Steel, Grooved Tee	6,515.41	219.68
			For Galvanized Fittings, Add	1,855.82	
23 21 13 23-1633	EA		20", Steel, Grooved Tee	9,198.15	223.17
			For Galvanized Fittings, Add	2,659.09	
23 21 13 23-1634	EA		24", Steel, Grooved Tee	14,029.68	274.16
			For Galvanized Fittings, Add	4,085.58	
23 21 13 23-1635			Grooved Wyes (90 Degree True Wye) (23 21 13 23-1615)		
			Note: Victaulic No. 33		
23 21 13 23-1636	EA		1", Steel, Grooved Wye	496.77	16.93
			For Galvanized Fittings, Add	75.42	
23 21 13 23-1637	EA		1-1/4", Steel, Grooved Wye	502.42	20.73
			For Galvanized Fittings, Add	75.42	
23 21 13 23-1638	EA		1-1/2", Steel, Grooved Wye	509.47	25.44
			For Galvanized Fittings, Add	75.42	
23 21 13 23-1639	EA		2", Steel, Grooved Wye	520.69	32.94
			For Galvanized Fittings, Add	75.42	
23 21 13 23-1640	EA		2-1/2", Steel, Grooved Wye	531.88	40.33
			For Galvanized Fittings, Add	75.42	
23 21 13 23-1641	EA		3", Steel, Grooved Wye	637.72	49.56
			For Galvanized Fittings, Add	90.15	
23 21 13 23-1642	EA		4", Steel, Grooved Wye	834.13	64.13
			For Galvanized Fittings, Add	118.08	
23 21 13 23-1643	EA		5", Steel, Grooved Wye	1,183.53	83.83
			For Galvanized Fittings, Add	169.26	
23 21 13 23-1644	EA		6", Steel, Grooved Wye	1,466.04	104.86
			For Galvanized Fittings, Add	209.42	
23 21 13 23-1645	EA		8", Steel, Grooved Wye	2,075.98	127.33
			For Galvanized Fittings, Add	301.62	
23 21 13 23-1646	EA		10", Steel, Grooved Wye	3,476.35	148.47
			For Galvanized Fittings, Add	520.59	
23 21 13 23-1647	EA		12", Steel, Grooved Wye	3,861.77	178.23
			For Galvanized Fittings, Add	575.13	
23 21 13 23-1648	EA		14", Steel, Grooved Wye	4,401.49	198.03
			For Galvanized Fittings, Add	656.74	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1649	EA	16", Steel, Grooved Wye	5,629.62	198.95
		For Galvanized Fittings, Add	853.02	
23 21 13 23-1650	EA	18", Steel, Grooved Wye	6,428.13	219.88
		For Galvanized Fittings, Add	975.75	
23 21 13 23-1651	EA	20", Steel, Grooved Wye	9,178.80	222.75
		For Galvanized Fittings, Add	1,415.17	
23 21 13 23-1652	EA	24", Steel, Grooved Wye	14,162.26	274.16
		For Galvanized Fittings, Add	2,200.19	
23 21 13 23-1653 Grooved Crosses (23 21 13 23-1615)				
		Note: Victaulic No. 35		
23 21 13 23-1654	EA	3/4", Steel, Grooved Cross	338.27	22.06
		For Galvanized Fittings, Add	45.78	
23 21 13 23-1655	EA	1", Steel, Grooved Cross	343.28	25.44
		For Galvanized Fittings, Add	45.78	
23 21 13 23-1656	EA	1-1/4", Steel, Grooved Cross	414.90	31.09
		For Galvanized Fittings, Add	55.25	
23 21 13 23-1657	EA	1-1/2", Steel, Grooved Cross	454.04	38.17
		For Galvanized Fittings, Add	59.53	
23 21 13 23-1658	EA	2", Steel, Grooved Cross	298.26	49.36
		For Galvanized Fittings, Add	33.65	
23 21 13 23-1659	EA	2-1/2", Steel, Grooved Cross	315.07	60.54
		For Galvanized Fittings, Add	33.65	
23 21 13 23-1660	EA	3", Steel, Grooved Cross	514.45	74.29
		For Galvanized Fittings, Add	60.46	
23 21 13 23-1661	EA	4", Steel, Grooved Cross	815.10	96.14
		For Galvanized Fittings, Add	100.64	
23 21 13 23-1662	EA	5", Steel, Grooved Cross	1,559.17	125.69
		For Galvanized Fittings, Add	205.60	
23 21 13 23-1663	EA	6", Steel, Grooved Cross	1,999.25	157.30
		For Galvanized Fittings, Add	264.52	
23 21 13 23-1664	EA	8", Steel, Grooved Cross	2,608.81	190.95
		For Galvanized Fittings, Add	348.38	
23 21 13 23-1665	EA	10", Steel, Grooved Cross	4,295.18	222.75
		For Galvanized Fittings, Add	594.18	
23 21 13 23-1666	EA	12", Steel, Grooved Cross	6,117.10	267.38
		For Galvanized Fittings, Add	857.45	
23 21 13 23-1667	EA	14", Steel, Grooved Cross	6,367.72	297.04
		For Galvanized Fittings, Add	888.36	
23 21 13 23-1668	EA	16", Steel, Grooved Cross	8,195.33	298.78
		For Galvanized Fittings, Add	1,162.11	
23 21 13 23-1669	EA	18", Steel, Grooved Cross	9,990.48	329.47
		For Galvanized Fittings, Add	1,424.48	
23 21 13 23-1670	EA	20", Steel, Grooved Cross	13,955.57	334.60
		For Galvanized Fittings, Add	2,018.08	
23 21 13 23-1671	EA	24", Steel, Grooved Cross	21,386.44	411.24
		For Galvanized Fittings, Add	3,115.47	
23 21 13 23-1672 Grooved Reducing Tees (23 21 13 23-1615)				
		Note: Victaulic No. 25		
23 21 13 23-1673	EA	1", Steel, Grooved Reducing Tee	240.96	16.93
		For Galvanized Fittings, Add	43.11	
23 21 13 23-1674	EA	1-1/4", Steel, Grooved Reducing Tee	253.38	20.73
		For Galvanized Fittings, Add	44.47	
23 21 13 23-1675	EA	1-1/2", Steel, Grooved Reducing Tee	265.97	25.44
		For Galvanized Fittings, Add	45.57	
23 21 13 23-1676	EA	2", Steel, Grooved Reducing Tee	316.09	32.94
		For Galvanized Fittings, Add	53.35	
23 21 13 23-1677	EA	2-1/2", Steel, Grooved Reducing Tee	354.73	40.33
		For Galvanized Fittings, Add	58.84	
23 21 13 23-1678	EA	3", Steel, Grooved Reducing Tee	396.31	49.56
		For Galvanized Fittings, Add	64.41	
23 21 13 23-1679	EA	4", Steel, Grooved Reducing Tee	530.43	64.13
		For Galvanized Fittings, Add	86.86	
23 21 13 23-1680	EA	5", Steel, Grooved Reducing Tee	699.17	83.83
		For Galvanized Fittings, Add	114.70	
23 21 13 23-1681	EA	6", Steel, Grooved Reducing Tee	963.93	104.86
		For Galvanized Fittings, Add	161.35	
23 21 13 23-1682	EA	8", Steel, Grooved Reducing Tee	1,522.00	127.33
		For Galvanized Fittings, Add	266.23	
23 21 13 23-1683	EA	10", Steel, Grooved Reducing Tee	2,185.04	148.47
		For Galvanized Fittings, Add	392.48	
23 21 13 23-1684	EA	12", Steel, Grooved Reducing Tee	3,162.04	178.23
		For Galvanized Fittings, Add	578.97	
23 21 13 23-1685	EA	14", Steel, Grooved Reducing Tee	3,584.80	198.03
		For Galvanized Fittings, Add	657.58	
23 21 13 23-1686	EA	16", Steel, Grooved Reducing Tee	4,569.54	199.15
		For Galvanized Fittings, Add	854.18	
23 21 13 23-1687	EA	18", Steel, Grooved Reducing Tee	5,557.96	219.68
		For Galvanized Fittings, Add	1,045.74	
23 21 13 23-1688	EA	20", Steel, Grooved Reducing Tee	7,812.38	223.07
		For Galvanized Fittings, Add	1,495.59	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1689	EA		24", Steel, Grooved Reducing Tee For Galvanized Fittings, Add	12,456.51 2,409.09	274.16
23 21 13 23-1690			Grooved 45 Degree Lateral Wyes (23 21 13 23-1615) Note: Victaulic No. 30		
23 21 13 23-1691	EA		3/4", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	468.45 80.35	14.67
23 21 13 23-1692	EA		1", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	471.79 80.35	16.93
23 21 13 23-1693	EA		1-1/4", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	477.44 80.35	20.73
23 21 13 23-1694	EA		1-1/2", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	484.49 80.35	25.44
23 21 13 23-1695	EA		2", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	495.71 80.35	32.94
23 21 13 23-1696	EA		2-1/2", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	506.90 80.35	40.33
23 21 13 23-1697	EA		3", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	459.90 69.42	49.56
23 21 13 23-1698	EA		3-1/2", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	738.99 117.61	57.15
23 21 13 23-1699	EA		4", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	856.66 136.90	64.13
23 21 13 23-1700	EA		5", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	1,237.19 200.07	83.83
23 21 13 23-1701	EA		6", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	1,948.02 322.35	104.86
23 21 13 23-1702	EA		8", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	2,770.32 464.30	127.33
23 21 13 23-1703	EA		10", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	3,863.51 655.35	148.47
23 21 13 23-1704	EA		12", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	4,669.16 792.35	178.23
23 21 13 23-1705	EA		14", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	6,721.83 1,156.49	198.03
23 21 13 23-1706	EA		16", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	8,325.10 1,444.77	199.15
23 21 13 23-1707	EA		18", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	9,301.91 1,615.07	219.68
23 21 13 23-1708	EA		20", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	13,944.42 2,449.80	223.07
23 21 13 23-1709	EA		24", Steel, Grooved, 45 Degree Lateral Wye..... For Galvanized Fittings, Add	21,559.98 3,806.80	274.16
23 21 13 23-1710			Grooved 45 Degree Lateral Reducing Wyes (23 21 13 23-1615) Note: Victaulic No. 30R		
23 21 13 23-1711	EA		3", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	459.90 50.13	49.56
23 21 13 23-1712	EA		4", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	856.66 98.87	64.13
23 21 13 23-1713	EA		5", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	1,237.19 144.50	83.83
23 21 13 23-1714	EA		6", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	1,593.25 186.69	104.86
23 21 13 23-1715	EA		8", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	2,263.96 269.50	127.33
23 21 13 23-1716	EA		10", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	2,761.62 330.06	148.47
23 21 13 23-1717	EA		12", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	3,352.67 401.11	178.23
23 21 13 23-1718	EA		14", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	3,753.39 449.35	198.03
23 21 13 23-1719	EA		16", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	4,766.46 580.82	199.15
23 21 13 23-1720	EA		18", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	7,189.65 891.85	219.68
23 21 13 23-1721	EA		20", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	10,376.22 1,305.43	223.07
23 21 13 23-1722	EA		24", Steel, Grooved 45 Degree Lateral Reducing Wye..... For Galvanized Fittings, Add	16,669.11 2,113.54	274.16
23 21 13 23-1723			Mechanical-T Outlet (23 21 13 23-1615) Note: Includes making opening in pipe. Grooved or treaded branch outlets. Victaulic Styles 920 or 921.		
23 21 13 23-1724	EA		2" x 3/4" Mechanical-T Outlet With Threaded Branch Outlet..... For Galvanized Fittings, Add	148.11 18.41	36.94
23 21 13 23-1725	EA		2" x 1" Mechanical-T Outlet With Threaded Branch Outlet..... For Galvanized Fittings, Add	148.11 18.41	36.94
23 21 13 23-1726	EA		2" x 1-1/4" Mechanical-T Outlet With Threaded Branch Outlet..... For Galvanized Fittings, Add	159.69 21.28	36.94
23 21 13 23-1727	EA		2" x 1-1/2" Mechanical-T Outlet With Threaded Branch Outlet.....	159.69	36.94
23 21 13 23-1728	EA		2-1/2" x 3/4" Mechanical-T Outlet With Threaded Branch Outlet.....	157.35	41.56

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1729 EA 2-1/2" x 1" Mechanical-T Outlet With Threaded Branch Outlet.....	157.35	41.56
23 21 13 23-1730 EA 2-1/2" x 1-1/4" Mechanical-T Outlet With Threaded Branch Outlet.....	187.94	41.56
23 21 13 23-1731 EA 3" x 3/4" Mechanical-T Outlet With Threaded Branch Outlet.....	177.82	46.17
23 21 13 23-1732 EA 3" x 1" Mechanical-T Outlet With Threaded Branch Outlet.....	177.82	46.17
23 21 13 23-1733 EA 3" x 1-1/4" Mechanical-T Outlet With Threaded Branch Outlet.....	202.46	46.17
23 21 13 23-1734 EA 3" x 1-1/2" Mechanical-T Outlet With Threaded Branch Outlet.....	202.46	46.17
23 21 13 23-1735 EA 3" x 2" Mechanical-T Outlet With Threaded Branch Outlet.....	219.33	46.17
23 21 13 23-1736 EA 4" x 3/4" Mechanical-T Outlet With Threaded Branch Outlet.....	232.12	61.56
23 21 13 23-1737 EA 4" x 1" Mechanical-T Outlet With Threaded Branch Outlet.....	232.12	61.56
23 21 13 23-1738 EA 4" x 1-1/4" Mechanical-T Outlet With Threaded Branch Outlet.....	251.36	61.56
23 21 13 23-1739 EA 4" x 1-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	256.76	61.56
23 21 13 23-1740 EA 4" x 2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	256.76	61.56
23 21 13 23-1741 EA 4" x 2-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	262.16	61.56
23 21 13 23-1742 EA 4" x 3" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	272.50	61.56
23 21 13 23-1743 EA 5" x 1-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	333.41	84.65
23 21 13 23-1744 EA 5" x 2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	333.41	84.65
23 21 13 23-1745 EA 5" x 2-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	342.74	84.65
23 21 13 23-1746 EA 5" x 3" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	354.44	84.65
23 21 13 23-1747 EA 6" x 1-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	383.40	107.74
23 21 13 23-1748 EA 6" x 2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	383.40	107.74
23 21 13 23-1749 EA 6" x 2-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	397.13	107.74
23 21 13 23-1750 EA 6" x 3" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	408.71	107.74
23 21 13 23-1751 EA 6" x 4" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	429.29	107.74
23 21 13 23-1752 EA 8" x 2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	582.41	142.62
23 21 13 23-1753 EA 8" x 2-1/2" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	582.41	142.62
23 21 13 23-1754 EA 8" x 3" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	598.95	142.62
23 21 13 23-1755 EA 8" x 4" Mechanical-T Outlet With Threaded Or Grooved Outlet.....	608.73	142.62
23 21 13 23-1756 Installation-Ready™ Grooved Fittings (23 21 13 23-1529)		
23 21 13 23-1757 Installation-Ready™ 90 Degree Grooved Elbows (23 21 13 23-1756)		
Note: Victaulic No. 101		
23 21 13 23-1758 EA 1-1/4" Ductile Iron, Grooved, Installation-Ready™ 90 Degree Elbow.....	262.91	10.16
For Galvanized Fittings, Add	81.68	
For Galvanized Fittings, Add	63.37	
23 21 13 23-1759 EA 1-1/2" Ductile Iron, Grooved, Installation-Ready™ 90 Degree Elbow.....	273.27	12.19
For Galvanized Fittings, Add	84.08	
For Galvanized Fittings, Add	65.23	
23 21 13 23-1760 EA 2" Ductile Iron, Grooved, Installation-Ready™ 90 Degree Elbow.....	281.25	16.25
For Galvanized Fittings, Add	84.68	
For Galvanized Fittings, Add	65.69	
23 21 13 23-1761 EA 2-1/2" Ductile Iron, Grooved, Installation-Ready™ 90 Degree Elbow.....	340.18	20.31
For Galvanized Fittings, Add	102.10	
For Galvanized Fittings, Add	79.21	
23 21 13 23-1762 Installation-Ready™ 45 Degree Grooved Elbows (23 21 13 23-1756)		
Note: Victaulic No. 103		
23 21 13 23-1763 EA 1-1/4" Ductile Iron, Grooved, Installation-Ready™ 45 Degree Elbow.....	262.91	10.16
For Galvanized Fittings, Add	59.40	
For Galvanized Fittings, Add	63.37	
23 21 13 23-1764 EA 1-1/2" Ductile Iron, Grooved, Installation-Ready™ 45 Degree Elbow.....	273.27	12.19
For Galvanized Fittings, Add	61.15	
For Galvanized Fittings, Add	65.23	
23 21 13 23-1765 EA 2" Ductile Iron, Grooved, Installation-Ready™ 45 Degree Elbow.....	281.25	16.25
For Galvanized Fittings, Add	61.59	
For Galvanized Fittings, Add	65.69	
23 21 13 23-1766 EA 2-1/2" Ductile Iron, Grooved, Installation-Ready™ 45 Degree Elbow.....	340.18	20.31
For Galvanized Fittings, Add	74.26	
For Galvanized Fittings, Add	79.21	
23 21 13 23-1767 Installation-Ready™ Grooved Tees (23 21 13 23-1756)		
Note: Victaulic No. 102		
23 21 13 23-1768 EA 1-1/4" Ductile Iron, Grooved, Installation-Ready™ Tee.....	402.72	13.54
For Galvanized Fittings, Add	114.66	
For Galvanized Fittings, Add	97.84	
23 21 13 23-1769 EA 1-1/2" Ductile Iron, Grooved, Installation-Ready™ Tee.....	419.57	16.25
For Galvanized Fittings, Add	118.48	
For Galvanized Fittings, Add	101.10	
23 21 13 23-1770 EA 2" Ductile Iron, Grooved, Installation-Ready™ Tee.....	433.23	21.67
For Galvanized Fittings, Add	120.12	
For Galvanized Fittings, Add	102.50	
23 21 13 23-1771 EA 2-1/2" Ductile Iron, Grooved, Installation-Ready™ Tee.....	503.31	27.09
For Galvanized Fittings, Add	138.68	
For Galvanized Fittings, Add	118.34	
23 21 13 23-1772 Grooved Fittings (23 21 13 23-1529)		
23 21 13 23-1773 Flanged Adapter Nipple, Grooved (23 21 13 23-1772)		
Note: Victaulic No. 41 and 45		



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1774	EA		1" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	332.62	12.31
			For Galvanized Fittings, Add	56.55	
			For 300 LB Rating, Add	47.12	
23 21 13 23-1775	EA		1-1/4" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	334.68	13.64
			For Galvanized Fittings, Add	56.55	
			For 300 LB Rating, Add	47.12	
23 21 13 23-1776	EA		1-1/2" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	339.81	17.13
			For Galvanized Fittings, Add	56.55	
			For 300 LB Rating, Add	47.12	
23 21 13 23-1777	EA		2" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	350.60	24.31
			For Galvanized Fittings, Add	56.55	
			For 300 LB Rating, Add	47.12	
23 21 13 23-1778	EA		2-1/2" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	358.31	29.44
			For Galvanized Fittings, Add	56.55	
			For 300 LB Rating, Add	47.12	
23 21 13 23-1779	EA		3" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	454.68	35.20
			For Galvanized Fittings, Add	72.36	
			For 300 LB Rating, Add	60.90	
23 21 13 23-1780	EA		4" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	550.44	47.40
			For Galvanized Fittings, Add	86.29	
			For 300 LB Rating, Add	71.91	
23 21 13 23-1781	EA		5" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	771.02	57.36
			For Galvanized Fittings, Add	123.31	
			For 300 LB Rating, Add	102.75	
23 21 13 23-1782	EA		6" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	897.75	77.47
			For Galvanized Fittings, Add	140.68	
			For 300 LB Rating, Add	117.24	
23 21 13 23-1783	EA		8" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	1,236.02	104.86
			For Galvanized Fittings, Add	194.19	
			For 300 LB Rating, Add	161.83	
23 21 13 23-1784	EA		10" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	1,951.38	127.33
			For Galvanized Fittings, Add	316.89	
			For 300 LB Rating, Add	264.08	
23 21 13 23-1785	EA		12" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	2,629.83	148.47
			For Galvanized Fittings, Add	433.29	
			For 300 LB Rating, Add	361.08	
23 21 13 23-1786	EA		14" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	3,105.91	178.23
			For Galvanized Fittings, Add	510.97	
			For 300 LB Rating, Add	425.81	
23 21 13 23-1787	EA		16" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	4,668.55	198.03
			For Galvanized Fittings, Add	786.90	
			For 300 LB Rating, Add	655.75	
23 21 13 23-1788	EA		18" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	5,580.22	297.04
			For Galvanized Fittings, Add	924.28	
			For 300 LB Rating, Add	770.23	
23 21 13 23-1789	EA		20" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	5,886.61	356.45
			For Galvanized Fittings, Add	963.40	
			For 300 LB Rating, Add	802.83	
23 21 13 23-1790	EA		24" Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	9,827.00	396.05
			For Galvanized Fittings, Add	1,661.98	
			For 300 LB Rating, Add	1,384.98	
23 21 13 23-1791			Grooved Concentric Reducers (23 21 13 23-1772)		
			Note: Victaulic No. 50		
23 21 13 23-1792	EA		1-1/4" x 3/4", Grooved Concentric Reducer.....	353.55	12.31
			For Galvanized Fittings, Add	14.74	
23 21 13 23-1793	EA		1-1/4" x 1", Grooved Concentric Reducer.....	369.68	13.03
			For Galvanized Fittings, Add	15.41	
23 21 13 23-1794	EA		1-1/2" x 3/4", Grooved Concentric Reducer.....	416.52	14.06
			For Galvanized Fittings, Add	47.54	
23 21 13 23-1795	EA		1-1/2" x 1", Grooved Concentric Reducer.....	106.75	14.67
			For Galvanized Fittings, Add	10.18	
23 21 13 23-1796	EA		1-1/2" x 1-1/4", Grooved Concentric Reducer.....	350.89	15.39
			For Galvanized Fittings, Add	39.40	
23 21 13 23-1797	EA		2" x 3/4", Grooved Concentric Reducer.....	109.83	16.73
			For Galvanized Fittings, Add	10.18	
23 21 13 23-1798	EA		2" x 1", Grooved Concentric Reducer.....	110.85	17.44
			For Galvanized Fittings, Add	10.18	
23 21 13 23-1799	EA		2" x 1-1/4", Grooved Concentric Reducer.....	120.38	18.16
			For Galvanized Fittings, Add	11.20	
23 21 13 23-1800	EA		2" x 1-1/2", Grooved Concentric Reducer.....	115.02	20.21
			For Galvanized Fittings, Add	10.18	
23 21 13 23-1801	EA		2-1/2" x 3/4", Grooved Concentric Reducer.....	717.59	18.88
			For Galvanized Fittings, Add	82.85	
23 21 13 23-1802	EA		2-1/2" x 1", Grooved Concentric Reducer.....	570.02	19.60
			For Galvanized Fittings, Add	64.99	
23 21 13 23-1803	EA		2-1/2" x 1-1/4", Grooved Concentric Reducer.....	519.80	20.21
			For Galvanized Fittings, Add	58.83	
23 21 13 23-1804	EA		2-1/2" x 1-1/2", Grooved Concentric Reducer.....	118.03	22.27
			For Galvanized Fittings, Add	10.18	
23 21 13 23-1805	EA		2-1/2" x 2", Grooved Concentric Reducer.....	122.13	24.93
			For Galvanized Fittings, Add	10.18	
23 21 13 23-1806	EA		3" x 3/4", Grooved Concentric Reducer.....	726.64	21.96
			For Galvanized Fittings, Add	105.45	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1807	EA	3" x 1", Grooved Concentric Reducer	127.35	22.57
		<i>For Galvanized Fittings, Add</i>	14.22	
23 21 13 23-1808	EA	3" x 1-1/4", Grooved Concentric Reducer	572.21	23.29
		<i>For Galvanized Fittings, Add</i>	81.68	
23 21 13 23-1809	EA	3" x 1-1/2", Grooved Concentric Reducer	536.75	24.93
		<i>For Galvanized Fittings, Add</i>	75.90	
23 21 13 23-1810	EA	3" x 2", Grooved Concentric Reducer	115.85	27.70
		<i>For Galvanized Fittings, Add</i>	11.29	
23 21 13 23-1811	EA	3" x 2-1/2", Grooved Concentric Reducer	151.88	33.04
		<i>For Galvanized Fittings, Add</i>	15.56	
23 21 13 23-1812	EA	3-1/2" x 3", Grooved Concentric Reducer	162.44	35.60
		<i>For Galvanized Fittings, Add</i>	16.58	
23 21 13 23-1813	EA	4" x 1", Grooved Concentric Reducer	154.51	28.01
		<i>For Galvanized Fittings, Add</i>	19.28	
23 21 13 23-1814	EA	4" x 1-1/4", Grooved Concentric Reducer	931.97	28.73
		<i>For Galvanized Fittings, Add</i>	152.44	
23 21 13 23-1815	EA	4" x 1-1/2", Grooved Concentric Reducer	725.22	30.47
		<i>For Galvanized Fittings, Add</i>	116.54	
23 21 13 23-1816	EA	4" x 2", Grooved Concentric Reducer	148.67	33.24
		<i>For Galvanized Fittings, Add</i>	16.96	
23 21 13 23-1817	EA	4" x 2-1/2", Grooved Concentric Reducer	177.33	35.60
		<i>For Galvanized Fittings, Add</i>	21.26	
23 21 13 23-1818	EA	4" x 3", Grooved Concentric Reducer	181.43	38.37
		<i>For Galvanized Fittings, Add</i>	21.26	
23 21 13 23-1819	EA	4" x 3-1/2", Grooved Concentric Reducer	185.53	41.04
		<i>For Galvanized Fittings, Add</i>	21.26	
23 21 13 23-1820	EA	5" x 2", Grooved Concentric Reducer	1,308.89	38.68
		<i>For Galvanized Fittings, Add</i>	214.53	
23 21 13 23-1821	EA	5" x 2-1/2", Grooved Concentric Reducer	1,032.11	41.04
		<i>For Galvanized Fittings, Add</i>	166.45	
23 21 13 23-1822	EA	5" x 3", Grooved Concentric Reducer	210.78	43.81
		<i>For Galvanized Fittings, Add</i>	24.89	
23 21 13 23-1823	EA	5" x 4", Grooved Concentric Reducer	247.18	49.25
		<i>For Galvanized Fittings, Add</i>	29.72	
23 21 13 23-1824	EA	6" x 1", Grooved Concentric Reducer	293.07	41.76
		<i>For Galvanized Fittings, Add</i>	43.01	
23 21 13 23-1825	EA	6" x 1-1/2", Grooved Concentric Reducer	1,381.42	44.12
		<i>For Galvanized Fittings, Add</i>	245.42	
23 21 13 23-1826	EA	6" x 2", Grooved Concentric Reducer	300.74	46.89
		<i>For Galvanized Fittings, Add</i>	43.01	
23 21 13 23-1827	EA	6" x 2-1/2", Grooved Concentric Reducer	1,396.62	49.25
		<i>For Galvanized Fittings, Add</i>	246.82	
23 21 13 23-1828	EA	6" x 3", Grooved Concentric Reducer	308.46	52.02
		<i>For Galvanized Fittings, Add</i>	43.01	
23 21 13 23-1829	EA	6" x 4", Grooved Concentric Reducer	286.91	57.46
		<i>For Galvanized Fittings, Add</i>	37.45	
23 21 13 23-1830	EA	6" x 5", Grooved Concentric Reducer	391.33	63.00
		<i>For Galvanized Fittings, Add</i>	55.41	
23 21 13 23-1831	EA	8" x 3", Grooved Concentric Reducer	500.06	58.90
		<i>For Galvanized Fittings, Add</i>	76.85	
23 21 13 23-1832	EA	8" x 4", Grooved Concentric Reducer	508.25	64.33
		<i>For Galvanized Fittings, Add</i>	76.85	
23 21 13 23-1833	EA	8" x 5", Grooved Concentric Reducer	516.48	69.77
		<i>For Galvanized Fittings, Add</i>	76.85	
23 21 13 23-1834	EA	8" x 6", Grooved Concentric Reducer	642.13	77.98
		<i>For Galvanized Fittings, Add</i>	97.99	
23 21 13 23-1835	EA	10" x 4", Grooved Concentric Reducer	1,087.74	71.51
		<i>For Galvanized Fittings, Add</i>	182.96	
23 21 13 23-1836	EA	10" x 5", Grooved Concentric Reducer	2,276.82	76.96
		<i>For Galvanized Fittings, Add</i>	403.31	
23 21 13 23-1837	EA	10" x 6", Grooved Concentric Reducer	1,199.98	85.16
		<i>For Galvanized Fittings, Add</i>	200.08	
23 21 13 23-1838	EA	10" x 8", Grooved Concentric Reducer	1,210.22	92.04
		<i>For Galvanized Fittings, Add</i>	200.08	
23 21 13 23-1839	EA	12" x 4", Grooved Concentric Reducer	3,367.90	81.47
		<i>For Galvanized Fittings, Add</i>	486.87	
23 21 13 23-1840	EA	12" x 6", Grooved Concentric Reducer	1,421.46	95.11
		<i>For Galvanized Fittings, Add</i>	191.83	
23 21 13 23-1841	EA	12" x 8", Grooved Concentric Reducer	2,073.92	101.99
		<i>For Galvanized Fittings, Add</i>	288.16	
23 21 13 23-1842	EA	12" x 10", Grooved Concentric Reducer	2,084.76	109.17
		<i>For Galvanized Fittings, Add</i>	288.16	
23 21 13 23-1843	EA	14" x 6", Grooved Concentric Reducer	6,671.83	102.50
		<i>For Galvanized Fittings, Add</i>	200.11	
23 21 13 23-1844	EA	14" x 8", Grooved Concentric Reducer	3,989.91	109.37
		<i>For Galvanized Fittings, Add</i>	117.46	
23 21 13 23-1845	EA	14" x 10", Grooved Concentric Reducer	3,405.11	116.56
		<i>For Galvanized Fittings, Add</i>	99.17	
23 21 13 23-1846	EA	14" x 12", Grooved Concentric Reducer	3,419.96	126.41
		<i>For Galvanized Fittings, Add</i>	99.17	
23 21 13 23-1847	EA	16" x 8", Grooved Concentric Reducer	6,069.72	116.66
		<i>For Galvanized Fittings, Add</i>	180.97	
23 21 13 23-1848	EA	16" x 10", Grooved Concentric Reducer	5,635.78	123.84
		<i>For Galvanized Fittings, Add</i>	167.32	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1849	EA	16" x 12", Grooved Concentric Reducer	.....	5,214.72	133.80
		For Galvanized Fittings, Add	.....	153.93	
23 21 13 23-1850	EA	16" x 14", Grooved Concentric Reducer	.....	5,225.80	141.18
		For Galvanized Fittings, Add	.....	153.93	
23 21 13 23-1851	EA	18" x 10", Grooved Concentric Reducer	.....	7,891.84	130.71
		For Galvanized Fittings, Add	.....	236.26	
23 21 13 23-1852	EA	18" x 12", Grooved Concentric Reducer	.....	7,149.79	140.57
		For Galvanized Fittings, Add	.....	213.03	
23 21 13 23-1853	EA	18" x 14", Grooved Concentric Reducer	.....	6,503.75	147.96
		For Galvanized Fittings, Add	.....	192.85	
23 21 13 23-1854	EA	18" x 16", Grooved Concentric Reducer	.....	6,514.83	155.44
		For Galvanized Fittings, Add	.....	192.85	
23 21 13 23-1855	EA	20" x 10", Grooved Concentric Reducer	.....	8,684.42	134.10
		For Galvanized Fittings, Add	.....	260.44	
23 21 13 23-1856	EA	20" x 12", Grooved Concentric Reducer	.....	7,448.62	144.06
		For Galvanized Fittings, Add	.....	222.04	
23 21 13 23-1857	EA	20" x 14", Grooved Concentric Reducer	.....	7,459.71	151.44
		For Galvanized Fittings, Add	.....	222.04	
23 21 13 23-1858	EA	20" x 16", Grooved Concentric Reducer	.....	6,654.61	158.73
		For Galvanized Fittings, Add	.....	196.99	
23 21 13 23-1859	EA	20" x 18", Grooved Concentric Reducer	.....	7,090.90	165.60
		For Galvanized Fittings, Add	.....	210.07	
23 21 13 23-1860	EA	24" x 10", Grooved Concentric Reducer	.....	19,127.70	149.18
		For Galvanized Fittings, Add	.....	580.35	
23 21 13 23-1861	EA	24" x 12", Grooved Concentric Reducer	.....	18,686.11	159.14
		For Galvanized Fittings, Add	.....	566.34	
23 21 13 23-1862	EA	24" x 14", Grooved Concentric Reducer	.....	16,288.28	166.43
		For Galvanized Fittings, Add	.....	492.39	
23 21 13 23-1863	EA	24" x 16", Grooved Concentric Reducer	.....	16,299.43	173.91
		For Galvanized Fittings, Add	.....	492.39	
23 21 13 23-1864	EA	24" x 18", Grooved Concentric Reducer	.....	13,960.85	180.68
		For Galvanized Fittings, Add	.....	420.28	
23 21 13 23-1865	EA	24" x 20", Grooved Concentric Reducer	.....	12,753.45	184.17
		For Galvanized Fittings, Add	.....	383.05	
23 21 13 23-1866		Grooved Eccentric Reducers (23 21 13 23-1772)			
		Note: Victaulic No. 51			
23 21 13 23-1867	EA	1-1/2" x 3/4", Grooved Eccentric Reducer	.....	430.17	14.06
		For Galvanized Fittings, Add	.....	49.18	
23 21 13 23-1868	EA	1-1/2" x 1", Grooved Eccentric Reducer	.....	391.37	14.67
		For Galvanized Fittings, Add	.....	44.39	
23 21 13 23-1869	EA	1-1/2" x 1-1/4", Grooved Eccentric Reducer	.....	384.34	15.39
		For Galvanized Fittings, Add	.....	43.42	
23 21 13 23-1870	EA	2" x 3/4", Grooved Eccentric Reducer	.....	820.15	16.73
		For Galvanized Fittings, Add	.....	95.56	
23 21 13 23-1871	EA	2" x 1", Grooved Eccentric Reducer	.....	433.96	17.44
		For Galvanized Fittings, Add	.....	49.02	
23 21 13 23-1872	EA	2" x 1-1/4", Grooved Eccentric Reducer	.....	474.26	18.16
		For Galvanized Fittings, Add	.....	53.74	
23 21 13 23-1873	EA	2" x 1-1/2", Grooved Eccentric Reducer	.....	404.56	20.21
		For Galvanized Fittings, Add	.....	44.98	
23 21 13 23-1874	EA	2-1/2" x 3/4", Grooved Eccentric Reducer	.....	1,066.09	18.88
		For Galvanized Fittings, Add	.....	124.74	
23 21 13 23-1875	EA	2-1/2" x 1", Grooved Eccentric Reducer	.....	996.16	19.60
		For Galvanized Fittings, Add	.....	116.22	
23 21 13 23-1876	EA	2-1/2" x 1-1/4", Grooved Eccentric Reducer	.....	591.85	20.21
		For Galvanized Fittings, Add	.....	67.49	
23 21 13 23-1877	EA	2-1/2" x 1-1/2", Grooved Eccentric Reducer	.....	478.28	22.27
		For Galvanized Fittings, Add	.....	53.48	
23 21 13 23-1878	EA	2-1/2" x 2", Grooved Eccentric Reducer	.....	216.67	24.93
		For Galvanized Fittings, Add	.....	21.54	
23 21 13 23-1879	EA	3" x 1", Grooved Eccentric Reducer	.....	1,070.93	22.57
		For Galvanized Fittings, Add	.....	124.66	
23 21 13 23-1880	EA	3" x 1-1/4", Grooved Eccentric Reducer	.....	973.74	23.29
		For Galvanized Fittings, Add	.....	112.85	
23 21 13 23-1881	EA	3" x 1-1/2", Grooved Eccentric Reducer	.....	552.08	24.93
		For Galvanized Fittings, Add	.....	61.86	
23 21 13 23-1882	EA	3" x 2", Grooved Eccentric Reducer	.....	247.53	27.70
		For Galvanized Fittings, Add	.....	24.76	
23 21 13 23-1883	EA	3" x 2-1/2", Grooved Eccentric Reducer	.....	255.48	33.04
		For Galvanized Fittings, Add	.....	24.76	
23 21 13 23-1884	EA	3-1/2" x 3", Grooved Eccentric Reducer	.....	1,192.84	35.60
		For Galvanized Fittings, Add	.....	136.97	
23 21 13 23-1885	EA	4" x 1", Grooved Eccentric Reducer	.....	2,144.26	28.01
		For Galvanized Fittings, Add	.....	360.53	
23 21 13 23-1886	EA	4" x 1-1/2", Grooved Eccentric Reducer	.....	1,317.05	30.47
		For Galvanized Fittings, Add	.....	218.04	
23 21 13 23-1887	EA	4" x 2", Grooved Eccentric Reducer	.....	301.61	33.24
		For Galvanized Fittings, Add	.....	43.19	
23 21 13 23-1888	EA	4" x 2-1/2", Grooved Eccentric Reducer	.....	305.21	35.60
		For Galvanized Fittings, Add	.....	43.19	
23 21 13 23-1889	EA	4" x 3", Grooved Eccentric Reducer	.....	309.31	38.37
		For Galvanized Fittings, Add	.....	43.19	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1890	EA	5" x 2", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	1,459.93 240.43	38.68
23 21 13 23-1891	EA	5" x 2-1/2", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	1,255.98 204.84	41.04
23 21 13 23-1892	EA	5" x 3", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	1,219.36 197.86	43.81
23 21 13 23-1893	EA	5" x 4", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	416.90 58.83	49.25
23 21 13 23-1894	EA	6" x 1", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	2,241.99 406.67	41.76
23 21 13 23-1895	EA	6" x 2", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	2,057.79 370.87	46.89
23 21 13 23-1896	EA	6" x 2-1/2", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	2,440.55 441.62	49.25
23 21 13 23-1897	EA	6" x 3", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	534.68 85.22	52.02
23 21 13 23-1898	EA	6" x 4", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	485.94 74.59	57.46
23 21 13 23-1899	EA	6" x 5", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	573.92 89.48	63.00
23 21 13 23-1900	EA	8" x 3", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	2,397.52 430.91	58.90
23 21 13 23-1901	EA	8" x 4", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	2,114.60 376.59	64.33
23 21 13 23-1902	EA	8" x 5", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	1,983.65 350.62	69.77
23 21 13 23-1903	EA	8" x 6", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	927.53 151.25	77.98
23 21 13 23-1904	EA	10" x 4", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	3,810.63 691.05	71.51
23 21 13 23-1905	EA	10" x 5", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	3,604.59 651.08	76.96
23 21 13 23-1906	EA	10" x 6", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	2,758.89 490.97	85.16
23 21 13 23-1907	EA	10" x 8", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	2,364.92 415.55	92.04
23 21 13 23-1908	EA	12" x 4", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	3,887.80 568.25	81.47
23 21 13 23-1909	EA	12" x 6", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	3,657.57 530.41	95.11
23 21 13 23-1910	EA	12" x 8", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	3,577.90 516.84	101.99
23 21 13 23-1911	EA	12" x 10", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	3,231.51 462.93	109.17
23 21 13 23-1912	EA	14" x 6", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	9,022.61 272.28	102.50
23 21 13 23-1913	EA	14" x 8", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	5,834.11 174.07	109.37
23 21 13 23-1914	EA	14" x 10", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	5,572.31 165.71	116.56
23 21 13 23-1915	EA	14" x 12", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	5,587.16 165.71	126.41
23 21 13 23-1916	EA	16" x 8", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	9,969.57 300.69	116.66
23 21 13 23-1917	EA	16" x 10", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	9,236.69 277.86	123.84
23 21 13 23-1918	EA	16" x 12", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	8,705.21 261.09	133.80
23 21 13 23-1919	EA	16" x 14", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	8,716.29 261.09	141.18
23 21 13 23-1920	EA	18" x 10", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	12,506.15 377.92	130.71
23 21 13 23-1921	EA	18" x 12", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	11,770.03 354.87	140.57
23 21 13 23-1922	EA	18" x 14", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	10,724.02 322.42	147.96
23 21 13 23-1923	EA	18" x 16", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	10,735.10 322.42	155.44
23 21 13 23-1924	EA	20" x 10", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	16,422.93 498.01	134.10
23 21 13 23-1925	EA	20" x 12", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	12,215.08 368.37	144.06
23 21 13 23-1926	EA	20" x 14", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	11,476.03 345.34	151.44
23 21 13 23-1927	EA	20" x 16", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	11,304.94 339.76	158.73
23 21 13 23-1928	EA	20" x 18", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	10,891.30 326.74	165.60
23 21 13 23-1929	EA	24" x 12", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	23,721.86 720.94	159.14
23 21 13 23-1930	EA	24" x 14", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	20,263.99 614.44	166.43
23 21 13 23-1931	EA	24" x 16", Grooved Eccentric Reducer..... <i>For Galvanized Fittings, Add</i>	20,275.14 614.44	173.91



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1932	EA		24" x 18", Grooved Eccentric Reducer	19,149.20	180.68
			For Galvanized Fittings, Add	579.56	
23 21 13 23-1933	EA		24" x 20", Grooved Eccentric Reducer	17,503.58	184.17
			For Galvanized Fittings, Add	528.88	
23 21 13 23-1934 Grooved, Close Nipple (23 21 13 23-1772)					
Note: Victaulic No. 143					
23 21 13 23-1935	EA		1-1/4" Ductile Iron, Grooved, Close Nipple	61.17	13.54
			For Galvanized Fittings, Add	7.32	
			For 300 LB Rating, Add	6.10	
			For Galvanized Fittings, Add	10.41	
23 21 13 23-1936	EA		1-1/2" Ductile Iron, Grooved, Close Nipple	69.95	16.93
			For Galvanized Fittings, Add	7.97	
			For 300 LB Rating, Add	6.64	
			For Galvanized Fittings, Add	11.34	
23 21 13 23-1937	EA		2" Ductile Iron, Grooved, Close Nipple	87.25	22.35
			For Galvanized Fittings, Add	9.61	
			For 300 LB Rating, Add	8.01	
			For Galvanized Fittings, Add	13.67	
23 21 13 23-1938	EA		2-1/2" Ductile Iron, Grooved, Close Nipple	104.13	27.09
			For Galvanized Fittings, Add	11.36	
			For 300 LB Rating, Add	9.46	
			For Galvanized Fittings, Add	16.15	
23 21 13 23-1939 Grooved Caps (23 21 13 23-1772)					
Note: Victaulic No. 60					
23 21 13 23-1940	EA		1" Carbon Steel Grooved Cap	141.75	4.20
23 21 13 23-1941	EA		1-1/4" Carbon Steel Grooved Cap	143.81	5.23
23 21 13 23-1942	EA		1-1/2" Carbon Steel Grooved Cap	146.07	6.36
23 21 13 23-1943	EA		2" Carbon Steel Grooved Cap	150.07	8.41
23 21 13 23-1944	EA		2-1/2" Carbon Steel Grooved Cap	153.76	10.26
23 21 13 23-1945	EA		3" Carbon Steel Grooved Cap	158.07	12.41
23 21 13 23-1946	EA		4" Carbon Steel Grooved Cap	174.79	16.41
23 21 13 23-1947	EA		5" Carbon Steel Grooved Cap	367.31	20.42
23 21 13 23-1948	EA		6" Carbon Steel Grooved Cap	379.48	26.78
23 21 13 23-1949	EA		8" Carbon Steel Grooved Cap	683.54	31.81
23 21 13 23-1950	EA		10" Carbon Steel Grooved Cap	1,155.34	37.14
23 21 13 23-1951	EA		12" Carbon Steel Grooved Cap	1,979.40	44.53
23 21 13 23-1952 Grooved Couplings (23 21 13 23-1529)					
23 21 13 23-1953 Flexible Grooved Coupling (23 21 13 23-1952)					
Note: Victaulic Style 77					
23 21 13 23-1954	EA		3/4" Grooved Standard Coupling	25.36	5.54
			For Galvanized Fittings, Add	4.75	
23 21 13 23-1955	EA		1" Grooved Standard Coupling	25.36	5.54
			For Galvanized Fittings, Add	4.75	
23 21 13 23-1956	EA		1-1/4" Grooved Standard Coupling	33.06	6.97
			For Galvanized Fittings, Add	6.32	
23 21 13 23-1957	EA		1-1/2" Grooved Standard Coupling	37.20	8.31
			For Galvanized Fittings, Add	6.91	
23 21 13 23-1958	EA		2" Grooved Standard Coupling	42.85	11.19
			For Galvanized Fittings, Add	7.30	
23 21 13 23-1959	EA		2-1/2" Grooved Standard Coupling	51.65	13.64
			For Galvanized Fittings, Add	8.74	
23 21 13 23-1960	EA		3" Grooved Standard Coupling	55.61	16.31
			For Galvanized Fittings, Add	8.74	
23 21 13 23-1961	EA		3-1/2" Grooved Standard Coupling	78.97	19.09
			For Galvanized Fittings, Add	14.08	
23 21 13 23-1962	EA		4" Grooved Standard Coupling	82.98	21.76
			For Galvanized Fittings, Add	14.08	
23 21 13 23-1963	EA		5" Grooved Standard Coupling	117.96	27.30
			For Galvanized Fittings, Add	21.59	
23 21 13 23-1964	EA		6" Grooved Standard Coupling	144.60	35.60
			For Galvanized Fittings, Add	25.52	
23 21 13 23-1965	EA		8" Grooved Standard Coupling	212.21	42.48
			For Galvanized Fittings, Add	41.61	
23 21 13 23-1966	EA		10" Grooved Standard Coupling	323.29	50.89
			For Galvanized Fittings, Add	69.15	
23 21 13 23-1967	EA		12" Grooved Standard Coupling	364.67	55.71
			For Galvanized Fittings, Add	78.73	
23 21 13 23-1968	EA		14" Grooved Standard Coupling	452.91	74.29
			For Galvanized Fittings, Add	95.64	
23 21 13 23-1969	EA		16" Grooved Standard Coupling	581.64	89.17
			For Galvanized Fittings, Add	125.45	
23 21 13 23-1970	EA		18" Grooved Standard Coupling	673.17	99.01
			For Galvanized Fittings, Add	146.92	
23 21 13 23-1971	EA		20" Grooved Standard Coupling	992.47	111.43
			For Galvanized Fittings, Add	231.13	
23 21 13 23-1972	EA		24" Grooved Standard Coupling	1,110.79	137.08
			For Galvanized Fittings, Add	253.47	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-1973		Zero-Flex® Rigid Coupling (23 21 13 23-1952) Note: Victaulic Style 07		
23 21 13 23-1974	EA	1" Grooved Rigid Coupling.....	31.99	5.54
		For Galvanized Fittings, Add	5.78	
23 21 13 23-1975	EA	1-1/4" Grooved Rigid Coupling.....	34.09	6.97
		For Galvanized Fittings, Add	5.78	
23 21 13 23-1976	EA	1-1/2" Grooved Rigid Coupling.....	36.13	8.31
		For Galvanized Fittings, Add	5.78	
23 21 13 23-1977	EA	2" Grooved Rigid Coupling.....	40.98	11.19
		For Galvanized Fittings, Add	5.93	
23 21 13 23-1978	EA	2-1/2" Grooved Rigid Coupling.....	48.35	13.64
		For Galvanized Fittings, Add	6.84	
23 21 13 23-1979	EA	3" Grooved Rigid Coupling.....	52.31	16.31
		For Galvanized Fittings, Add	6.84	
23 21 13 23-1980	EA	3-1/2" Grooved Rigid Coupling.....	61.29	19.09
		For Galvanized Fittings, Add	7.99	
23 21 13 23-1981	EA	4" Grooved Rigid Coupling.....	78.91	21.76
		For Galvanized Fittings, Add	11.33	
23 21 13 23-1982	EA	5" Grooved Rigid Coupling.....	100.89	27.30
		For Galvanized Fittings, Add	14.71	
23 21 13 23-1983	EA	6" Grooved Rigid Coupling.....	133.69	35.60
		For Galvanized Fittings, Add	19.66	
23 21 13 23-1984	EA	8" Grooved Rigid Coupling.....	190.05	42.48
		For Galvanized Fittings, Add	30.98	
23 21 13 23-1985	EA	10" Grooved Rigid Coupling.....	302.88	50.89
		For Galvanized Fittings, Add	55.50	
23 21 13 23-1986	EA	12" Grooved Rigid Coupling.....	337.00	55.71
		For Galvanized Fittings, Add	62.11	
23 21 13 23-1987	EA	14" Grooved Rigid Coupling.....	442.54	74.29
		For Galvanized Fittings, Add	81.14	
23 21 13 23-1988	EA	16" Grooved Rigid Coupling.....	565.56	89.17
		For Galvanized Fittings, Add	105.83	
23 21 13 23-1989	EA	18" Grooved Rigid Coupling.....	647.80	99.01
		For Galvanized Fittings, Add	122.34	
23 21 13 23-1990	EA	20" Grooved Rigid Coupling.....	761.51	111.43
		For Galvanized Fittings, Add	145.65	
23 21 13 23-1991	EA	24" Grooved Rigid Coupling.....	1,081.22	137.08
		For Galvanized Fittings, Add	214.54	
23 21 13 23-1992		Large Diameter Grooved Coupling (23 21 13 23-1952) Note: Victaulic Style 770		
23 21 13 23-1993	EA	28" Grooved Coupling.....	1,091.63	27.30
		For Galvanized Fittings, Add	147.11	
23 21 13 23-1994	EA	30" Grooved Coupling.....	1,263.22	35.60
		For Galvanized Fittings, Add	169.37	
23 21 13 23-1995	EA	32" Grooved Coupling.....	1,875.34	42.48
		For Galvanized Fittings, Add	253.64	
23 21 13 23-1996	EA	36" Grooved Coupling.....	2,490.00	50.89
		For Galvanized Fittings, Add	337.91	
23 21 13 23-1997	EA	42" Grooved Coupling.....	4,964.90	55.71
		For Galvanized Fittings, Add	683.40	
23 21 13 23-1998		Flexible Coupling (23 21 13 23-1952) Note: Victaulic Style 75		
23 21 13 23-1999	EA	1-1/2" Grooved Flexible Coupling.....	33.98	8.31
		For Galvanized Fittings, Add	5.49	
23 21 13 23-2000	EA	2" Grooved Flexible Coupling.....	38.78	11.19
		For Galvanized Fittings, Add	5.63	
23 21 13 23-2001	EA	2-1/2" Grooved Flexible Coupling.....	45.95	13.64
		For Galvanized Fittings, Add	6.53	
23 21 13 23-2002	EA	3" Grooved Flexible Coupling.....	54.06	16.31
		For Galvanized Fittings, Add	7.60	
23 21 13 23-2003	EA	3-1/2" Grooved Flexible Coupling.....	70.70	19.09
		For Galvanized Fittings, Add	10.76	
23 21 13 23-2004	EA	4" Grooved Flexible Coupling.....	74.71	21.76
		For Galvanized Fittings, Add	10.76	
23 21 13 23-2005	EA	5" Grooved Flexible Coupling.....	101.49	27.30
		For Galvanized Fittings, Add	15.52	
23 21 13 23-2006	EA	6" Grooved Flexible Coupling.....	126.48	35.60
		For Galvanized Fittings, Add	18.70	
23 21 13 23-2007	EA	8" Grooved Flexible Coupling.....	178.44	42.48
		For Galvanized Fittings, Add	29.39	
23 21 13 23-2008		Installation-Ready™ Coupling (23 21 13 23-1952) Note: Victaulic Style 009N		
23 21 13 23-2009	EA	1-1/4" Ductile Iron, Installation-Ready™ Coupling.....	79.46	5.18
		For Galvanized Fittings, Add	18.33	
23 21 13 23-2010	EA	1-1/2" Ductile Iron, Installation-Ready™ Coupling.....	82.47	6.20
		For Galvanized Fittings, Add	18.71	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2011	EA		2" Ductile Iron, Installation-Ready™ Coupling.....	95.29	8.33
			For Galvanized Fittings, Add	21.16	
23 21 13 23-2012	EA		2-1/2" Ductile Iron, Installation-Ready™ Coupling.....	110.52	10.09
			For Galvanized Fittings, Add	24.38	
23 21 13 23-2013	EA		3" Ductile Iron, Installation-Ready™ Coupling.....	126.13	12.12
			For Galvanized Fittings, Add	27.59	
23 21 13 23-2014	EA		4" Ductile Iron, Installation-Ready™ Coupling.....	175.85	16.18
			For Galvanized Fittings, Add	38.74	
23 21 13 23-2015	EA		5" Ductile Iron, Installation-Ready™ Coupling.....	278.20	20.24
			For Galvanized Fittings, Add	63.37	
23 21 13 23-2016	EA		6" Ductile Iron, Installation-Ready™ Coupling.....	335.87	26.48
			For Galvanized Fittings, Add	75.71	
23 21 13 23-2017	EA		8" Ductile Iron, Installation-Ready™ Coupling.....	541.83	31.49
			For Galvanized Fittings, Add	126.49	
23 21 13 23-2018			Grooved Strainers And Suction Diffusers (23 21 13 23-1529)		
23 21 13 23-2019			Grooved Wye Strainers (23 21 13 23-2018)		
			Note: Victaulic Style 732		
23 21 13 23-2020	EA		2" Grooved Wye Strainer.....	2,518.48	22.57
23 21 13 23-2021	EA		2-1/2" Grooved Wye Strainer.....	2,651.05	27.40
23 21 13 23-2022	EA		3" Grooved Wye Strainer.....	2,981.20	32.83
23 21 13 23-2023	EA		4" Grooved Wye Strainer.....	3,383.84	43.81
23 21 13 23-2024	EA		5" Grooved Wye Strainer.....	4,888.76	54.79
23 21 13 23-2025	EA		6" Grooved Wye Strainer.....	5,325.55	71.21
23 21 13 23-2026	EA		8" Grooved Wye Strainer.....	8,127.71	84.86
23 21 13 23-2027	EA		10" Grooved Wye Strainer.....	13,009.57	99.21
23 21 13 23-2028	EA		12" Grooved Wye Strainer.....	22,645.46	119.13
23 21 13 23-2029			Grooved Tee Type Strainers (23 21 13 23-2018)		
			Note: Victaulic Style 730		
23 21 13 23-2030	EA		1-1/2" Grooved Tee Type Strainer.....	1,942.99	17.13
23 21 13 23-2031	EA		2" Grooved Tee Type Strainer.....	2,487.81	22.57
23 21 13 23-2032	EA		2-1/2" Grooved Tee Type Strainer.....	2,619.17	27.40
23 21 13 23-2033	EA		3" Grooved Tee Type Strainer.....	2,945.19	32.83
23 21 13 23-2034	EA		4" Grooved Tee Type Strainer.....	3,343.01	43.81
23 21 13 23-2035	EA		5" Grooved Tee Type Strainer.....	4,829.32	54.79
23 21 13 23-2036	EA		6" Grooved Tee Type Strainer.....	5,261.46	71.21
23 21 13 23-2037	EA		8" Grooved Tee Type Strainer.....	8,028.47	84.86
23 21 13 23-2038	EA		10" Grooved Tee Type Strainer.....	11,753.57	99.21
23 21 13 23-2039	EA		12" Grooved Tee Type Strainer.....	15,117.07	119.13
23 21 13 23-2040	EA		14" Grooved Tee Type Strainer.....	53,448.67	134.10
23 21 13 23-2041	EA		16" Grooved Tee Type Strainer.....	66,401.55	148.47
23 21 13 23-2042	EA		18" Grooved Tee Type Strainer.....	87,287.74	162.21
23 21 13 23-2043			Grooved Suction Diffuser (23 21 13 23-2018)		
			Note: Victaulic Style 731		
23 21 13 23-2044	EA		2-1/2" Grooved x 2" Flanged Suction Diffuser.....	5,133.44	25.34
23 21 13 23-2045	EA		3" Grooved x 2" Flanged Suction Diffuser.....	5,449.40	28.01
23 21 13 23-2046	EA		3" Grooved x 2-1/2" Flanged Suction Diffuser.....	3,936.38	32.83
23 21 13 23-2047	EA		3" Grooved x 3" Flanged Suction Diffuser.....	3,991.91	35.60
23 21 13 23-2048	EA		4" Grooved x 2-1/2" Flanged Suction Diffuser.....	4,324.27	35.60
23 21 13 23-2049	EA		4" Grooved x 3" Flanged Suction Diffuser.....	4,665.37	38.37
23 21 13 23-2050	EA		4" Grooved x 4" Flanged Suction Diffuser.....	5,394.15	38.37
23 21 13 23-2051	EA		5" Grooved x 4" Flanged Suction Diffuser.....	6,022.37	49.25
23 21 13 23-2052	EA		5" Grooved x 5" Flanged Suction Diffuser.....	6,328.33	52.02
23 21 13 23-2053	EA		6" Grooved x 4" Flanged Suction Diffuser.....	6,428.54	57.46
23 21 13 23-2054	EA		6" Grooved x 5" Flanged Suction Diffuser.....	7,681.38	63.00
23 21 13 23-2055	EA		6" Grooved x 6" Flanged Suction Diffuser.....	7,978.17	67.10
23 21 13 23-2056	EA		8" Grooved x 5" Flanged Suction Diffuser.....	8,186.10	69.77
23 21 13 23-2057	EA		8" Grooved x 6" Flanged Suction Diffuser.....	8,638.79	77.98
23 21 13 23-2058	EA		8" Grooved x 8" Flanged Suction Diffuser.....	14,792.22	84.86
23 21 13 23-2059	EA		10" Grooved x 8" Flanged Suction Diffuser.....	16,685.59	91.73
23 21 13 23-2060	EA		10" Grooved x 10" Flanged Suction Diffuser.....	20,082.58	95.11
23 21 13 23-2061	EA		12" Grooved x 10" Flanged Suction Diffuser.....	23,766.42	109.48
23 21 13 23-2062	EA		12" Grooved x 12" Flanged Suction Diffuser.....	33,004.44	116.36
23 21 13 23-2063	EA		14" Grooved x 10" Flanged Suction Diffuser.....	30,728.50	116.36
23 21 13 23-2064	EA		14" Grooved x 12" Flanged Suction Diffuser.....	34,320.27	126.61
23 21 13 23-2065	EA		14" Grooved x 14" Flanged Suction Diffuser.....	41,647.89	134.10
23 21 13 23-2066	EA		16" Grooved x 14" Flanged Suction Diffuser.....	42,875.85	140.98
23 21 13 23-2067			Grooved Steel Valves (23 21 13 23-1529)		
23 21 13 23-2068			Grooved Butterfly Valves With Standard Trim (23 21 13 23-2067)		
23 21 13 23-2069	EA		1-1/2" Butterfly Valve, Grooved, With Standard Trim.....	288.98	11.19
23 21 13 23-2070	EA		2" Butterfly Valve, Grooved, With Standard Trim.....	294.27	14.67
23 21 13 23-2071	EA		3" Butterfly Valve, Grooved, With Standard Trim.....	483.12	21.76
23 21 13 23-2072	EA		4" Butterfly Valve, Grooved, With Standard Trim.....	648.99	28.63

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2073	EA	6" Butterfly Valve, Grooved, With Standard Trim	1,418.39	46.89
23 21 13 23-2074	EA	8" Butterfly Valve, Grooved, With Standard Trim	1,965.53	65.97
23 21 13 23-2075	EA	10" Butterfly Valve, Grooved, With Standard Trim	2,952.90	89.17
23 21 13 23-2076		Grooved Butterfly Valves With Stainless Steel Trim (23 21 13 23-2067)		
23 21 13 23-2077	EA	1-1/2" Butterfly Valve, Grooved, With Stainless Steel Trim	434.80	11.19
23 21 13 23-2078	EA	2" Butterfly Valve, Grooved, With Stainless Steel Trim	440.09	14.67
23 21 13 23-2079	EA	3" Butterfly Valve, Grooved, With Stainless Steel Trim	680.79	21.76
23 21 13 23-2080	EA	4" Butterfly Valve, Grooved, With Stainless Steel Trim	866.11	28.63
23 21 13 23-2081	EA	6" Butterfly Valve, Grooved, With Stainless Steel Trim	1,658.19	46.89
23 21 13 23-2082	EA	8" Butterfly Valve, Grooved, With Stainless Steel Trim	2,756.23	65.97
23 21 13 23-2083	EA	10" Butterfly Valve, Grooved, With Stainless Steel Trim	4,346.34	89.17
23 21 13 23-2084		Grooved Ball Valves With Standard Trim And Handle (23 21 13 23-2067)		
		Note: Victaulic No. 721		
23 21 13 23-2085	EA	1-1/2" Ball Valve, Grooved, With Standard Trim	243.65	10.98
23 21 13 23-2086	EA	2" Ball Valve, Grooved, With Standard Trim	278.91	15.08
23 21 13 23-2087	EA	2-1/2" Ball Valve, Grooved, With Standard Trim	638.32	18.47
23 21 13 23-2088	EA	3" Ball Valve, Grooved, With Standard Trim	1,047.67	21.86
23 21 13 23-2089	EA	4" Ball Valve, Grooved, With Standard Trim	1,632.05	28.73
23 21 13 23-2090	EA	6" Ball Valve, Grooved, With Standard Trim	5,079.02	47.20
23 21 13 23-2091		Grooved Ball Valves With Stainless Steel Trim And Handle (23 21 13 23-2067)		
		Note: Victaulic No. 721		
23 21 13 23-2092	EA	1-1/2" Ball Valve, Grooved, With Stainless Steel Trim	259.62	10.98
23 21 13 23-2093	EA	2" Ball Valve, Grooved, With Stainless Steel Trim	444.70	15.08
23 21 13 23-2094	EA	2-1/2" Ball Valve, Grooved, With Stainless Steel Trim	1,161.09	18.47
23 21 13 23-2095	EA	3" Ball Valve, Grooved, With Stainless Steel Trim	1,501.72	21.86
23 21 13 23-2096	EA	4" Ball Valve, Grooved, With Stainless Steel Trim	2,051.64	28.73
23 21 13 23-2097	EA	6" Ball Valve, Grooved, With Stainless Steel Trim	5,598.95	47.20
23 21 13 23-2098		Grooved Check Valves (23 21 13 23-2067)		
		Note: Victaulic No. 712		
23 21 13 23-2099	EA	2" Check Valve, Grooved	370.18	15.08
23 21 13 23-2100	EA	2-1/2" Check Valve, Grooved	601.46	18.47
23 21 13 23-2101	EA	3" Check Valve, Grooved	700.78	21.86
23 21 13 23-2102	EA	4" Check Valve, Grooved	993.56	28.73
23 21 13 23-2103		Grooved Vic-Check Check Valves (23 21 13 23-2067)		
		Note: Victaulic No. 716		
23 21 13 23-2104	EA	2-1/2" "Vic-Check" Check Valve, Grooved	480.22	18.47
23 21 13 23-2105	EA	3" "Vic-Check" Check Valve, Grooved	485.21	21.86
23 21 13 23-2106	EA	4" "Vic-Check" Check Valve, Grooved	607.92	28.73
23 21 13 23-2107	EA	6" "Vic-Check" Check Valve, Grooved	1,186.08	47.20
23 21 13 23-2108	EA	8" "Vic-Check" Check Valve, Grooved	1,622.82	65.67
23 21 13 23-2109	EA	10" "Vic-Check" Check Valve, Grooved	4,545.64	88.96
23 21 13 23-2110	EA	12" "Vic-Check" Check Valve, Grooved	5,383.14	102.71
23 21 13 23-2111		Grooved Plug Valves With Lever Operator (23 21 13 23-2067)		
		Note: Victaulic No. 377		
23 21 13 23-2112	EA	3" Balancing Plug Valve, Grooved, With Lever Handle	1,040.13	21.86
23 21 13 23-2113	EA	4" Balancing Plug Valve, Grooved, With Lever Handle	1,151.59	28.73
23 21 13 23-2114	EA	6" Balancing Plug Valve, Grooved, With Lever Handle	2,058.61	47.20
23 21 13 23-2115		Grooved Plug Valve With Gear Operator (23 21 13 23-2067)		
		Note: Victaulic No. 377		
23 21 13 23-2116	EA	3" Balancing Plug Valve, Grooved, With Gear Operator	1,852.62	21.86
23 21 13 23-2117	EA	4" Balancing Plug Valve, Grooved, With Gear Operator	1,964.16	28.73
23 21 13 23-2118	EA	6" Balancing Plug Valve, Grooved, With Gear Operator	2,871.18	47.20
23 21 13 23-2119	EA	8" Balancing Plug Valve, Grooved, With Gear Operator	3,839.17	65.67
23 21 13 23-2120	EA	10" Balancing Plug Valve, Grooved, With Gear Operator	6,032.60	88.96
23 21 13 23-2121	EA	12" Balancing Plug Valve, Grooved, With Gear Operator	8,746.81	102.71
23 21 13 23-2122		Prepare Pipe For Groove (23 21 13 23-1529)		
23 21 13 23-2123		Cut Grooved Pipe (23 21 13 23-2122)		
		Note: For use where connecting ungrooved pipe with grooved pipe, coupling to grooved pipe, or for field groove preparation on existing cut pipe.		
23 21 13 23-2124	EA	Cut 3/4" Groove Pipe	10.75	
23 21 13 23-2125	EA	Cut 1" Groove Pipe	11.67	
23 21 13 23-2126	EA	Cut 1-1/4" Groove Pipe	13.18	
23 21 13 23-2127	EA	Cut 1-1/2" Groove Pipe	14.33	
23 21 13 23-2128	EA	Cut 2" Groove Pipe	15.71	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2129	EA	Cut 2-1/2" Groove Pipe.....	17.02	
23 21 13 23-2130	EA	Cut 3" Groove Pipe.....	18.57	
23 21 13 23-2131	EA	Cut 3-1/2" Groove Pipe.....	19.69	
23 21 13 23-2132	EA	Cut 4" Groove Pipe.....	20.95	
23 21 13 23-2133	EA	Cut 5" Groove Pipe.....	22.69	
23 21 13 23-2134	EA	Cut 6" Groove Pipe.....	23.34	
23 21 13 23-2135	EA	Cut 8" Groove Pipe.....	30.26	
23 21 13 23-2136	EA	Cut 10" Groove Pipe.....	43.00	
23 21 13 23-2137	EA	Cut 12" Groove Pipe.....	54.46	
23 21 13 23-2138	EA	Cut 14" Groove Pipe.....	81.69	
23 21 13 23-2139	EA	Cut 16" Groove Pipe.....	85.99	
23 21 13 23-2140	EA	Cut 18" Groove Pipe.....	90.77	
23 21 13 23-2141	EA	Cut 20" Groove Pipe.....	96.11	
23 21 13 23-2142	EA	Cut 24" Groove Pipe.....	108.92	
23 21 13 23-2143 Roll Grooved Pipe (23 21 13 23-2122)				
Note: For use where connecting ungrooved pipe with grooved pipe, coupling to grooved pipe, or for field groove preparation on existing cut pipe.				
23 21 13 23-2144	EA	Roll 3/4" Groove	6.15	
23 21 13 23-2145	EA	Roll 1" Groove	7.16	
23 21 13 23-2146	EA	Roll 1-1/4" Groove	8.17	
23 21 13 23-2147	EA	Roll 1-1/2" Groove	9.18	
23 21 13 23-2148	EA	Roll 2" Groove	14.09	
23 21 13 23-2149	EA	Roll 2-1/2" Groove	14.85	
23 21 13 23-2150	EA	Roll 3" Groove	16.33	
23 21 13 23-2151	EA	Roll 3-1/2" Groove	17.38	
23 21 13 23-2152	EA	Roll 4" Groove	18.99	
23 21 13 23-2153	EA	Roll 5" Groove	19.45	
23 21 13 23-2154	EA	Roll 6" Groove	20.43	
23 21 13 23-2155	EA	Roll 8" Groove	24.76	
23 21 13 23-2156	EA	Roll 10" Groove	28.17	
23 21 13 23-2157	EA	Roll 12" Groove	35.52	
23 21 13 23-2158	EA	Roll 14" Groove	54.46	
23 21 13 23-2159	EA	Roll 16" Groove	58.35	
23 21 13 23-2160	EA	Roll 18" Groove	60.51	
23 21 13 23-2161	EA	Roll 20" Groove	65.36	
23 21 13 23-2162	EA	Roll 24" Groove	71.04	
23 21 13 23-2163 Standard Gaskets (23 21 13 23-2122)				
Note: For use on replacement of existing gaskets.				
23 21 13 23-2164	EA	3/4" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	16.52	
23 21 13 23-2165	EA	1" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	17.38	
23 21 13 23-2166	EA	1-1/4" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	18.29	
23 21 13 23-2167	EA	1-1/2" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	20.11	
23 21 13 23-2168	EA	2" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	20.72	
23 21 13 23-2169	EA	2-1/2" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	23.99	
23 21 13 23-2170	EA	3" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	26.38	
23 21 13 23-2171	EA	3-1/2" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	32.10	
23 21 13 23-2172	EA	4" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	32.60	
23 21 13 23-2173	EA	5" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	39.95	
23 21 13 23-2174	EA	6" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	42.88	
23 21 13 23-2175	EA	8" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	57.87	
23 21 13 23-2176	EA	10" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	72.00	
23 21 13 23-2177	EA	12" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	85.41	
23 21 13 23-2178	EA	14" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	119.76	
23 21 13 23-2179	EA	16" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	157.65	
23 21 13 23-2180	EA	18" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	185.38	
23 21 13 23-2181	EA	20" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	270.84	
23 21 13 23-2182	EA	24" Grooved Standard Gasket, Ethylene Propylene Diene Monomer (EPDM) "E" Or Nitrile "T"	368.52	
23 21 13 23-2183 Copper Grooved-Joint Pipe Fittings (23 21 13 23)				
Note: Couplings are not included with fittings.				
23 21 13 23-2184 Grooved Fittings (23 21 13 23-2183)				
23 21 13 23-2185 Grooved 90 Degree Elbows (23 21 13 23-2184)				
23 21 13 23-2186	EA	2" Copper 90 Degree Elbow, Grooved.....	147.11	16.73
23 21 13 23-2187	EA	2-1/2" Copper 90 Degree Elbow, Grooved	163.75	20.42
23 21 13 23-2188	EA	3" Copper 90 Degree Elbow, Grooved.....	221.69	24.73
23 21 13 23-2189	EA	4" Copper 90 Degree Elbow, Grooved.....	460.56	32.63
23 21 13 23-2190	EA	5" Copper 90 Degree Elbow, Grooved.....	1,201.89	40.84
23 21 13 23-2191	EA	6" Copper 90 Degree Elbow, Grooved.....	1,894.54	53.46
23 21 13 23-2192	EA	8" Copper 90 Degree Elbow, Grooved.....	3,483.21	63.61
23 21 13 23-2193 Grooved 45 Degree Elbows (23 21 13 23-2184)				
23 21 13 23-2194	EA	2" Copper 45 Degree Elbow, Grooved.....	147.11	16.73
23 21 13 23-2195	EA	2-1/2" Copper 45 Degree Elbow, Grooved	163.75	20.42
23 21 13 23-2196	EA	3" Copper 45 Degree Elbow, Grooved.....	221.69	24.73

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2197	EA	4" Copper 45 Degree Elbow, Grooved.....	460.56	32.63
23 21 13 23-2198	EA	5" Copper 45 Degree Elbow, Grooved.....	1,201.89	40.84
23 21 13 23-2199	EA	6" Copper 45 Degree Elbow, Grooved.....	1,894.54	53.46
23 21 13 23-2200	EA	8" Copper 45 Degree Elbow, Grooved.....	3,483.21	63.61
23 21 13 23-2201		Grooved Tees (23 21 13 23-2184)		
23 21 13 23-2202	EA	2" Copper Tee, Grooved.....	235.51	24.63
23 21 13 23-2203	EA	2-1/2" Copper Tee, Grooved.....	255.10	30.27
23 21 13 23-2204	EA	3" Copper Tee, Grooved.....	368.32	37.14
23 21 13 23-2205	EA	4" Copper Tee, Grooved.....	740.75	48.02
23 21 13 23-2206	EA	5" Copper Tee, Grooved.....	2,962.39	62.80
23 21 13 23-2207	EA	6" Copper Tee, Grooved.....	2,385.67	78.60
23 21 13 23-2208	EA	8" Copper Tee, Grooved.....	4,170.19	95.43
23 21 13 23-2209		Grooved Reducing Tees (23 21 13 23-2184)		
23 21 13 23-2210	EA	2-1/2" Copper Tee, Reducing, Grooved.....	355.07	30.27
23 21 13 23-2211	EA	3" Copper Tee, Reducing, Grooved.....	574.21	37.14
23 21 13 23-2212	EA	4" Copper Tee, Reducing, Grooved.....	943.01	48.13
23 21 13 23-2213	EA	5" Copper Tee, Reducing, Grooved.....	2,710.46	62.90
23 21 13 23-2214	EA	6" Copper Tee, Reducing, Grooved.....	3,312.95	78.60
23 21 13 23-2215		Grooved X Cup Reducing Tees (23 21 13 23-2184)		
23 21 13 23-2216	EA	2" Copper Tee, Reducing, Grooved X Cup.....	287.37	24.63
23 21 13 23-2217	EA	2-1/2" Copper Tee, Reducing, Grooved X Cup.....	356.12	30.27
23 21 13 23-2218	EA	3" Copper Tee, Reducing, Grooved X Cup.....	620.88	37.14
23 21 13 23-2219	EA	4" Copper Tee, Reducing, Grooved X Cup.....	943.01	48.02
23 21 13 23-2220		Grooved Flanged Adapter Nipples (23 21 13 23-2184)		
23 21 13 23-2221	EA	2" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	526.44	18.16
23 21 13 23-2222	EA	2-1/2" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	554.40	22.06
23 21 13 23-2223	EA	3" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	587.24	26.37
23 21 13 23-2224	EA	4" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	657.04	35.50
23 21 13 23-2225	EA	5" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	873.72	42.99
23 21 13 23-2226	EA	6" Copper Flanged Adapter Nipples With Groove Gasket, ANSI CL 125 And 150.....	973.34	58.07
23 21 13 23-2227		Grooved Concentric Reducers (23 21 13 23-2184)		
23 21 13 23-2228	EA	2-1/2" x 2" Copper Concentric Reducer, Grooved.....	200.28	18.67
23 21 13 23-2229	EA	3" x 2" Copper Concentric Reducer, Grooved.....	204.40	20.83
23 21 13 23-2230	EA	3" x 2-1/2" Copper Concentric Reducer, Grooved.....	212.35	24.73
23 21 13 23-2231	EA	4" x 2" Copper Concentric Reducer, Grooved.....	382.74	24.93
23 21 13 23-2232	EA	4" x 2-1/2" Copper Concentric Reducer, Grooved.....	386.34	26.67
23 21 13 23-2233	EA	4" x 3" Copper Concentric Reducer, Grooved.....	390.44	28.73
23 21 13 23-2234	EA	5" x 3" Copper Concentric Reducer, Grooved.....	1,002.29	32.83
23 21 13 23-2235	EA	5" x 4" Copper Concentric Reducer, Grooved.....	1,010.50	36.94
23 21 13 23-2236	EA	6" x 3" Copper Concentric Reducer, Grooved.....	1,091.88	38.99
23 21 13 23-2237	EA	6" x 4" Copper Concentric Reducer, Grooved.....	1,100.09	43.10
23 21 13 23-2238	EA	6" x 5" Copper Concentric Reducer, Grooved.....	1,108.30	47.20
23 21 13 23-2239	EA	8" x 6" Copper Concentric Reducer, Grooved.....	1,896.35	58.48
23 21 13 23-2240		Grooved X Cup Concentric Reducers (23 21 13 23-2184)		
23 21 13 23-2241	EA	2" x 1" Copper Concentric Reducer, Grooved X Cup.....	161.01	13.13
23 21 13 23-2242	EA	2" x 1-1/4" Copper Concentric Reducer, Grooved X Cup.....	162.04	13.64
23 21 13 23-2243	EA	2" x 1-1/2" Copper Concentric Reducer, Grooved X Cup.....	165.18	15.19
23 21 13 23-2244	EA	2-1/2" x 1" Copper Concentric Reducer, Grooved X Cup.....	194.24	14.67
23 21 13 23-2245	EA	2-1/2" x 1-1/4" Copper Concentric Reducer, Grooved X Cup.....	195.26	15.19
23 21 13 23-2246	EA	2-1/2" x 1-1/2" Copper Concentric Reducer, Grooved X Cup.....	198.27	16.73
23 21 13 23-2247	EA	2-1/2" x 2" Copper Concentric Reducer, Grooved X Cup.....	202.37	18.67
23 21 13 23-2248	EA	3" x 1-1/2" Copper Concentric Reducer, Grooved X Cup.....	242.28	18.67
23 21 13 23-2249	EA	3" x 2" Copper Concentric Reducer, Grooved X Cup.....	246.40	20.83
23 21 13 23-2250	EA	4" x 2" Copper Concentric Reducer, Grooved X Cup.....	429.93	24.83
23 21 13 23-2251		Grooved Standard Couplings (23 21 13 23-2184)		
23 21 13 23-2252	EA	2" Copper Standard Coupling, Grooved.....	55.93	8.41
23 21 13 23-2253	EA	2-1/2" Copper Standard Coupling, Grooved.....	65.31	10.26
23 21 13 23-2254	EA	3" Copper Standard Coupling, Grooved.....	73.79	12.21
23 21 13 23-2255	EA	4" Copper Standard Coupling, Grooved.....	108.29	16.41
23 21 13 23-2256	EA	5" Copper Standard Coupling, Grooved.....	169.48	20.42
23 21 13 23-2257	EA	6" Copper Standard Coupling, Grooved.....	223.34	26.67
23 21 13 23-2258	EA	8" Copper Standard Coupling, Grooved.....	328.11	31.81
23 21 13 23-2259		Grooved Caps (23 21 13 23-2184)		

**Heating, Ventilating, and Air-Conditioning (HVAC)****23**

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2260 EA 2" Copper Cap, Grooved	95.07	8.41
23 21 13 23-2261 EA 2-1/2" Copper Cap, Grooved	136.61	10.26
23 21 13 23-2262 EA 3" Copper Cap, Grooved	168.56	12.21
23 21 13 23-2263 EA 4" Copper Cap, Grooved	248.94	16.31
23 21 13 23-2264 EA 5" Copper Cap, Grooved	424.30	20.42
23 21 13 23-2265 EA 6" Copper Cap, Grooved	494.78	26.67
23 21 13 23-2266 Grooved Valves (23 21 13 23-2183)		
23 21 13 23-2267 Grooved Butterfly Valves, Standard Trim, Without Operator (23 21 13 23-2266)		
Note: Copper body.		
23 21 13 23-2268 EA 2" Butterfly Valve, Grooved, With Standard Trim, Without Operator, Copper Body	477.56	10.98
For Chain Wheel, Add	43.45	
For Valve Bracket Insulation, Add	38.20	
23 21 13 23-2269 EA 3" Butterfly Valve, Grooved, With Standard Trim, Without Operator, Copper Body	542.87	16.31
For Chain Wheel, Add	43.45	
For Valve Bracket Insulation, Add	38.20	
23 21 13 23-2270 EA 4" Butterfly Valve, Grooved, With Standard Trim, Without Operator, Copper Body	717.62	21.44
For Chain Wheel, Add	43.45	
For Valve Bracket Insulation, Add	38.20	
23 21 13 23-2271 EA 6" Butterfly Valve, Grooved, With Standard Trim, Without Operator, Copper Body	957.04	35.20
For Chain Wheel, Add	43.45	
For Valve Bracket Insulation, Add	38.20	
23 21 13 23-2272 EA 8" Butterfly Valve, Grooved, With Standard Trim, Without Operator, Copper Body	1,054.18	49.46
For Chain Wheel, Add	43.45	
For Valve Bracket Insulation, Add	38.20	
23 21 13 23-2273 Grooved Butterfly Valves, Standard Trim, With Operator (23 21 13 23-2266)		
Note: Copper body.		
23 21 13 23-2274 EA 2" Butterfly Valve, Grooved, With Standard Trim, With Operator, Copper Body	583.62	10.98
For Chain Wheel, Add	43.45	
For Valve Bracket Insulation, Add	38.20	
23 21 13 23-2275 EA 3" Butterfly Valve, Grooved, With Standard Trim, With Operator, Copper Body	649.00	16.31
For Chain Wheel, Add	43.45	
For Valve Bracket Insulation, Add	38.20	
23 21 13 23-2276 EA 4" Butterfly Valve, Grooved, With Standard Trim, With Operator, Copper Body	823.75	21.44
For Chain Wheel, Add	43.45	
For Valve Bracket Insulation, Add	38.20	
23 21 13 23-2277 EA 6" Butterfly Valve, Grooved, With Standard Trim, With Operator, Copper Body	1,063.24	35.20
For Chain Wheel, Add	43.45	
For Valve Bracket Insulation, Add	38.20	
23 21 13 23-2278 EA 8" Butterfly Valve, Grooved, With Standard Trim, With Operator, Copper Body	1,160.31	49.46
For Chain Wheel, Add	43.45	
For Valve Bracket Insulation, Add	38.20	
23 21 13 23-2279 Polyvinyl Chloride (PVC) Pressure Pipe And Fittings (23 21 13 23)		
Note: Socket or back weld.		
23 21 13 23-2280 Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe And Fittings (23 21 13 23-2279)		
Note: ASTM D1785 with D2466 fittings.		
23 21 13 23-2281 Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe (23 21 13 23-2280)		
23 21 13 23-2282 LF 1/2" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	5.12	2.93
For Work In Restricted Working Space, Add	1.32	
23 21 13 23-2283 LF 3/4" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	6.43	3.67
For Work In Restricted Working Space, Add	1.65	
23 21 13 23-2284 LF 1" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	7.20	3.91
For Work In Restricted Working Space, Add	1.76	
23 21 13 23-2285 LF 1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	8.07	4.20
For Work In Restricted Working Space, Add	1.90	
23 21 13 23-2286 LF 1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	8.42	4.28
For Work In Restricted Working Space, Add	1.92	
23 21 13 23-2287 LF 2" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	10.42	5.12
For Work In Restricted Working Space, Add	2.31	
23 21 13 23-2288 LF 2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	13.44	6.09
For Work In Restricted Working Space, Add	2.74	
23 21 13 23-2289 LF 3" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	16.64	7.36
For Work In Restricted Working Space, Add	3.31	
23 21 13 23-2290 LF 4" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	24.63	11.03
For Work In Restricted Working Space, Add	4.97	
23 21 13 23-2291 LF 6" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	36.16	14.71
For Work In Restricted Working Space, Add	6.62	
23 21 13 23-2292 LF 8" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	47.71	17.53
For Work In Restricted Working Space, Add	7.89	
23 21 13 23-2293 LF 10" Schedule 40 Polyvinyl Chloride (PVC) Pressure Pipe	94.87	19.59
For Work In Restricted Working Space, Add	8.80	
23 21 13 23-2294 Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows (23 21 13 23-2280)		
23 21 13 23-2295 EA 1/2" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	17.38	11.08
For Work In Restricted Working Space, Add	4.97	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2296	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	23.24	14.67
		<i>For Work In Restricted Working Space, Add</i>	6.62	
23 21 13 23-2297	EA	1" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	29.44	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13 23-2298	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	42.54	25.86
		<i>For Work In Restricted Working Space, Add</i>	11.61	
23 21 13 23-2299	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	47.74	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
23 21 13 23-2300	EA	2" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	61.87	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
23 21 13 23-2301	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	101.56	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
23 21 13 23-2302	EA	3" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	131.39	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
23 21 13 23-2303	EA	4" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	170.05	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
23 21 13 23-2304	EA	6" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	246.65	97.78
		<i>For Work In Restricted Working Space, Add</i>	43.97	
23 21 13 23-2305	EA	8" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	428.68	114.10
		<i>For Work In Restricted Working Space, Add</i>	51.30	
23 21 13 23-2306	EA	10" Schedule 40 Polyvinyl Chloride (PVC) 90 Degree Elbows	641.11	170.11
		<i>For Work In Restricted Working Space, Add</i>	76.49	
23 21 13 23-2307 Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows (23 21 13 23-2280)				
23 21 13 23-2308	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	17.80	11.08
		<i>For Work In Restricted Working Space, Add</i>	4.97	
23 21 13 23-2309	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	24.07	14.67
		<i>For Work In Restricted Working Space, Add</i>	6.62	
23 21 13 23-2310	EA	1" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	30.61	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13 23-2311	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	43.29	25.86
		<i>For Work In Restricted Working Space, Add</i>	11.61	
23 21 13 23-2312	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	49.40	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
23 21 13 23-2313	EA	2" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	62.95	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
23 21 13 23-2314	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	101.56	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
23 21 13 23-2315	EA	3" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	138.39	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
23 21 13 23-2316	EA	4" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	182.79	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
23 21 13 23-2317	EA	6" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	247.82	97.78
		<i>For Work In Restricted Working Space, Add</i>	43.97	
23 21 13 23-2318	EA	8" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	414.61	114.10
		<i>For Work In Restricted Working Space, Add</i>	51.30	
23 21 13 23-2319	EA	10" Schedule 40 Polyvinyl Chloride (PVC) 45 Degree Elbows	641.11	170.11
		<i>For Work In Restricted Working Space, Add</i>	76.49	
23 21 13 23-2320 Schedule 40 Polyvinyl Chloride (PVC) Tees (23 21 13 23-2280)				
23 21 13 23-2321	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) Tees	28.36	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13 23-2322	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) Tees	34.18	22.06
		<i>For Work In Restricted Working Space, Add</i>	9.93	
23 21 13 23-2323	EA	1" Schedule 40 Polyvinyl Chloride (PVC) Tees	45.74	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
23 21 13 23-2324	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Tees	58.79	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
23 21 13 23-2325	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Tees	70.27	44.12
		<i>For Work In Restricted Working Space, Add</i>	19.86	
23 21 13 23-2326	EA	2" Schedule 40 Polyvinyl Chloride (PVC) Tees	87.99	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
23 21 13 23-2327	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Tees	127.65	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
23 21 13 23-2328	EA	3" Schedule 40 Polyvinyl Chloride (PVC) Tees	153.99	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
23 21 13 23-2329	EA	4" Schedule 40 Polyvinyl Chloride (PVC) Tees	217.63	114.10
		<i>For Work In Restricted Working Space, Add</i>	51.30	
23 21 13 23-2330	EA	6" Schedule 40 Polyvinyl Chloride (PVC) Tees	377.84	147.14
		<i>For Work In Restricted Working Space, Add</i>	66.20	
23 21 13 23-2331	EA	8" Schedule 40 Polyvinyl Chloride (PVC) Tees	638.26	182.54
		<i>For Work In Restricted Working Space, Add</i>	82.08	
23 21 13 23-2332	EA	10" Schedule 40 Polyvinyl Chloride (PVC) Tees	1,835.77	272.72
		<i>For Work In Restricted Working Space, Add</i>	122.67	
23 21 13 23-2333 Schedule 40 Polyvinyl Chloride (PVC) Crosses (23 21 13 23-2280)				
23 21 13 23-2334	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) Crosses	35.77	22.77
		<i>For Work In Restricted Working Space, Add</i>	10.26	
23 21 13 23-2335	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) Crosses	43.07	27.60
		<i>For Work In Restricted Working Space, Add</i>	12.41	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2336	EA		1" Schedule 40 Polyvinyl Chloride (PVC) Crosses	57.85	36.43
			For Work In Restricted Working Space, Add	16.37	
23 21 13 23-2337	EA		1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Crosses	74.55	46.27
			For Work In Restricted Working Space, Add	20.80	
23 21 13 23-2338	EA		1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Crosses	89.14	55.20
			For Work In Restricted Working Space, Add	24.83	
23 21 13 23-2339	EA		2" Schedule 40 Polyvinyl Chloride (PVC) Crosses	111.87	68.44
			For Work In Restricted Working Space, Add	30.78	
23 21 13 23-2340	EA		2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Crosses	165.81	90.09
			For Work In Restricted Working Space, Add	40.50	
23 21 13 23-2341	EA		3" Schedule 40 Polyvinyl Chloride (PVC) Crosses	200.64	106.91
			For Work In Restricted Working Space, Add	48.10	
23 21 13 23-2342	EA		4" Schedule 40 Polyvinyl Chloride (PVC) Crosses	286.85	142.62
			For Work In Restricted Working Space, Add	64.13	
23 21 13 23-2343	EA		6" Schedule 40 Polyvinyl Chloride (PVC) Crosses	522.10	183.87
			For Work In Restricted Working Space, Add	82.71	
23 21 13 23-2344	EA		8" Schedule 40 Polyvinyl Chloride (PVC) Crosses	913.45	227.98
			For Work In Restricted Working Space, Add	102.95	
23 21 13 23-2345	EA		10" Schedule 40 Polyvinyl Chloride (PVC) Crosses	2,748.15	341.05
			For Work In Restricted Working Space, Add	153.42	
23 21 13 23-2346			Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts (23 21 13 23-2280)		
23 21 13 23-2347	EA		3/4" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	17.92	11.29
			For Work In Restricted Working Space, Add	5.15	
23 21 13 23-2348	EA		1" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	23.55	14.47
			For Work In Restricted Working Space, Add	6.59	
23 21 13 23-2349	EA		1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts	31.44	19.39
			For Work In Restricted Working Space, Add	8.81	
23 21 13 23-2350	EA		1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts	38.77	24.11
			For Work In Restricted Working Space, Add	10.98	
23 21 13 23-2351	EA		2" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	47.72	29.04
			For Work In Restricted Working Space, Add	13.22	
23 21 13 23-2352	EA		2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts	66.96	40.33
			For Work In Restricted Working Space, Add	18.34	
23 21 13 23-2353	EA		3" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	93.22	55.71
			For Work In Restricted Working Space, Add	25.34	
23 21 13 23-2354	EA		4" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	124.74	69.26
			For Work In Restricted Working Space, Add	31.50	
23 21 13 23-2355	EA		6" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	171.18	80.64
			For Work In Restricted Working Space, Add	36.65	
23 21 13 23-2356	EA		8" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	423.09	93.17
			For Work In Restricted Working Space, Add	42.35	
23 21 13 23-2357	EA		10" Schedule 40 Polyvinyl Chloride (PVC) Reducing Inserts.....	502.32	124.97
			For Work In Restricted Working Space, Add	56.80	
23 21 13 23-2358			Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts (23 21 13 23-2280)		
23 21 13 23-2359	EA		1/2" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	18.30	11.08
			For Work In Restricted Working Space, Add	4.97	
23 21 13 23-2360	EA		3/4" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	23.82	14.67
			For Work In Restricted Working Space, Add	6.62	
23 21 13 23-2361	EA		1" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	29.52	18.26
			For Work In Restricted Working Space, Add	8.21	
23 21 13 23-2362	EA		1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	42.04	25.86
			For Work In Restricted Working Space, Add	11.61	
23 21 13 23-2363	EA		1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	47.49	29.14
			For Work In Restricted Working Space, Add	13.10	
23 21 13 23-2364	EA		2" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	60.70	37.04
			For Work In Restricted Working Space, Add	16.64	
23 21 13 23-2365	EA		2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	89.66	54.79
			For Work In Restricted Working Space, Add	24.62	
23 21 13 23-2366	EA		3" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	116.74	72.03
			For Work In Restricted Working Space, Add	32.40	
23 21 13 23-2367	EA		4" Schedule 40 Polyvinyl Chloride (PVC) Threaded Reducing Inserts	147.99	85.57
			For Work In Restricted Working Space, Add	38.48	
23 21 13 23-2368			Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters (23 21 13 23-2280)		
23 21 13 23-2369	EA		1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	18.88	11.08
			For Work In Restricted Working Space, Add	4.97	
23 21 13 23-2370	EA		3/4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	24.40	14.67
			For Work In Restricted Working Space, Add	6.62	
23 21 13 23-2371	EA		1" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	30.69	18.26
			For Work In Restricted Working Space, Add	8.21	
23 21 13 23-2372	EA		1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	42.71	25.86
			For Work In Restricted Working Space, Add	11.61	
23 21 13 23-2373	EA		1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	48.99	29.14
			For Work In Restricted Working Space, Add	13.10	
23 21 13 23-2374	EA		2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	62.04	37.04
			For Work In Restricted Working Space, Add	16.64	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2375	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	91.15	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
23 21 13 23-2376	EA	3" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	121.32	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
23 21 13 23-2377	EA	4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters.....	145.33	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
23 21 13 23-2378 Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters (23 21 13 23-2280)				
23 21 13 23-2379	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters.....	17.38	11.08
		<i>For Work In Restricted Working Space, Add</i>	4.97	
23 21 13 23-2380	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters.....	23.15	14.67
		<i>For Work In Restricted Working Space, Add</i>	6.62	
23 21 13 23-2381	EA	1" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters.....	28.61	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13 23-2382	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	40.71	25.86
		<i>For Work In Restricted Working Space, Add</i>	11.61	
23 21 13 23-2383	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	45.99	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
23 21 13 23-2384	EA	2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters.....	58.62	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
23 21 13 23-2385	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters	95.81	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
23 21 13 23-2386	EA	3" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters.....	126.48	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
23 21 13 23-2387	EA	4" Schedule 40 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters.....	158.81	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
23 21 13 23-2388 Schedule 40 Polyvinyl Chloride (PVC) P-Traps (23 21 13 23-2280)				
23 21 13 23-2389	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) P-Traps.....	28.65	15.08
		<i>For Work In Restricted Working Space, Add</i>	6.77	
23 21 13 23-2390 Schedule 40 Polyvinyl Chloride (PVC) Couplings (23 21 13 23-2280)				
23 21 13 23-2391	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) Couplings.....	17.05	11.08
		<i>For Work In Restricted Working Space, Add</i>	4.97	
23 21 13 23-2392	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) Couplings.....	22.74	14.67
		<i>For Work In Restricted Working Space, Add</i>	6.62	
23 21 13 23-2393	EA	1" Schedule 40 Polyvinyl Chloride (PVC) Couplings.....	28.61	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13 23-2394	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Couplings	40.38	25.86
		<i>For Work In Restricted Working Space, Add</i>	11.61	
23 21 13 23-2395	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Couplings	45.49	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
23 21 13 23-2396	EA	2" Schedule 40 Polyvinyl Chloride (PVC) Couplings.....	58.29	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
23 21 13 23-2397	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Couplings	88.41	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
23 21 13 23-2398	EA	3" Schedule 40 Polyvinyl Chloride (PVC) Couplings.....	117.91	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
23 21 13 23-2399	EA	4" Schedule 40 Polyvinyl Chloride (PVC) Couplings.....	142.66	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
23 21 13 23-2400	EA	6" Schedule 40 Polyvinyl Chloride (PVC) Couplings.....	192.20	97.78
		<i>For Work In Restricted Working Space, Add</i>	43.97	
23 21 13 23-2401	EA	8" Schedule 40 Polyvinyl Chloride (PVC) Couplings.....	256.26	114.10
		<i>For Work In Restricted Working Space, Add</i>	51.30	
23 21 13 23-2402	EA	10" Schedule 40 Polyvinyl Chloride (PVC) Couplings.....	574.58	122.30
		<i>For Work In Restricted Working Space, Add</i>	54.99	
23 21 13 23-2403 Schedule 40 Polyvinyl Chloride (PVC) Unions (23 21 13 23-2280)				
23 21 13 23-2404	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) Unions	35.79	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
23 21 13 23-2405	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) Unions	47.17	22.06
		<i>For Work In Restricted Working Space, Add</i>	9.93	
23 21 13 23-2406	EA	1" Schedule 40 Polyvinyl Chloride (PVC) Unions	59.39	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
23 21 13 23-2407	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Unions	93.76	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
23 21 13 23-2408	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Unions	106.15	44.12
		<i>For Work In Restricted Working Space, Add</i>	19.86	
23 21 13 23-2409	EA	2" Schedule 40 Polyvinyl Chloride (PVC) Unions	135.94	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
23 21 13 23-2410	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Unions	205.74	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
23 21 13 23-2411	EA	3" Schedule 40 Polyvinyl Chloride (PVC) Unions	231.83	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
23 21 13 23-2412	EA	4" Schedule 40 Polyvinyl Chloride (PVC) Unions	376.39	114.10
		<i>For Work In Restricted Working Space, Add</i>	51.30	
23 21 13 23-2413	EA	6" Schedule 40 Polyvinyl Chloride (PVC) Unions	495.87	147.14
		<i>For Work In Restricted Working Space, Add</i>	66.17	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Hydronic Piping and Pumps			23 21	

MINOR				TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	
23 21 13 23-2414	EA	8" Schedule 40 Polyvinyl Chloride (PVC) Unions	727.68	182.43	
		For Work In Restricted Working Space, Add	82.04		
23 21 13 23-2415	EA	10" Schedule 40 Polyvinyl Chloride (PVC) Unions	1,088.24	226.45	
		For Work In Restricted Working Space, Add	101.87		
23 21 13 23-2416 Schedule 40 Polyvinyl Chloride (PVC) Caps (23 21 13 23-2280)					
23 21 13 23-2417	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) Caps	8.23	5.00	
		For Work In Restricted Working Space, Add	2.27		
23 21 13 23-2418	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) Caps	10.77	6.57	
		For Work In Restricted Working Space, Add	2.98		
23 21 13 23-2419	EA	1" Schedule 40 Polyvinyl Chloride (PVC) Caps	13.64	8.10	
		For Work In Restricted Working Space, Add	3.69		
23 21 13 23-2420	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) Caps	19.51	11.65	
		For Work In Restricted Working Space, Add	5.30		
23 21 13 23-2421	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) Caps	21.65	12.93	
		For Work In Restricted Working Space, Add	5.90		
23 21 13 23-2422	EA	2" Schedule 40 Polyvinyl Chloride (PVC) Caps	27.36	16.52	
		For Work In Restricted Working Space, Add	7.49		
23 21 13 23-2423	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) Caps	44.85	24.42	
		For Work In Restricted Working Space, Add	11.08		
23 21 13 23-2424	EA	3" Schedule 40 Polyvinyl Chloride (PVC) Caps	57.17	32.11	
		For Work In Restricted Working Space, Add	14.58		
23 21 13 23-2425	EA	4" Schedule 40 Polyvinyl Chloride (PVC) Caps	77.37	38.07	
		For Work In Restricted Working Space, Add	17.32		
23 21 13 23-2426	EA	6" Schedule 40 Polyvinyl Chloride (PVC) Caps	113.00	43.50	
		For Work In Restricted Working Space, Add	19.79		
23 21 13 23-2427	EA	8" Schedule 40 Polyvinyl Chloride (PVC) Caps	234.31	50.79	
		For Work In Restricted Working Space, Add	23.09		
23 21 13 23-2428	EA	10" Schedule 40 Polyvinyl Chloride (PVC) Caps	696.93	75.73	
		For Work In Restricted Working Space, Add	34.42		
23 21 13 23-2429 Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges (23 21 13 23-2280)					
23 21 13 23-2430	EA	1/2" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Socket Weld Flanges	44.09	18.26	
		For Work In Restricted Working Space, Add	8.21		
23 21 13 23-2431	EA	3/4" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	58.74	22.06	
		For Work In Restricted Working Space, Add	9.93		
23 21 13 23-2432	EA	1" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	72.21	29.14	
		For Work In Restricted Working Space, Add	13.10		
23 21 13 23-2433	EA	1-1/4" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	84.85	37.04	
		For Work In Restricted Working Space, Add	16.64		
23 21 13 23-2434	EA	1-1/2" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	96.24	44.12	
		For Work In Restricted Working Space, Add	19.86		
23 21 13 23-2435	EA	2" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	122.04	54.79	
		For Work In Restricted Working Space, Add	24.62		
23 21 13 23-2436	EA	2-1/2" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	169.69	72.03	
		For Work In Restricted Working Space, Add	32.40		
23 21 13 23-2437	EA	3" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	196.36	85.57	
		For Work In Restricted Working Space, Add	38.48		
23 21 13 23-2438	EA	4" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	257.26	114.10	
		For Work In Restricted Working Space, Add	51.30		
23 21 13 23-2439	EA	6" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	356.17	147.14	
		For Work In Restricted Working Space, Add	66.17		
23 21 13 23-2440	EA	8" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	579.41	182.43	
		For Work In Restricted Working Space, Add	82.04		
23 21 13 23-2441	EA	10" Schedule 40 Polyvinyl Chloride (PVC) 150 LB Flanges	1,028.59	226.14	
		For Work In Restricted Working Space, Add	101.71		
23 21 13 23-2442 Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe And Fittings (23 21 13 23-2279)					
Note: ASTM D1785 with D2467 fittings.					
23 21 13 23-2443 Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe (23 21 13 23-2442)					
23 21 13 23-2444	LF	1/2" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	5.33	2.97	
		For Work In Restricted Working Space, Add	1.32		
23 21 13 23-2445	LF	3/4" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	6.68	3.70	
		For Work In Restricted Working Space, Add	1.65		
23 21 13 23-2446	LF	1" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	8.35	4.41	
		For Work In Restricted Working Space, Add	1.98		
23 21 13 23-2447	LF	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	10.09	5.13	
		For Work In Restricted Working Space, Add	2.32		
23 21 13 23-2448	LF	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	11.64	5.84	
		For Work In Restricted Working Space, Add	2.64		
23 21 13 23-2449	LF	2" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	15.14	7.39	
		For Work In Restricted Working Space, Add	3.31		
23 21 13 23-2450	LF	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	18.26	8.10	
		For Work In Restricted Working Space, Add	3.64		
23 21 13 23-2451	LF	3" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	21.37	8.83	
		For Work In Restricted Working Space, Add	3.97		
23 21 13 23-2452	LF	4" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	28.48	11.08	
		For Work In Restricted Working Space, Add	4.97		
23 21 13 23-2453	LF	6" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	44.75	14.67	
		For Work In Restricted Working Space, Add	6.62		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2454	LF	8" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	60.87	17.54
		<i>For Work In Restricted Working Space, Add</i>	7.89	
23 21 13 23-2455	LF	10" Schedule 80 Polyvinyl Chloride (PVC) Pressure Pipe	134.81	18.88
		<i>For Work In Restricted Working Space, Add</i>	8.50	
23 21 13 23-2456		Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows (23 21 13 23-2442)		
23 21 13 23-2457	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	19.55	11.08
		<i>For Work In Restricted Working Space, Add</i>	4.97	
		<i>For Threaded Fittings, Add</i>	2.48	
23 21 13 23-2458	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	25.98	14.67
		<i>For Work In Restricted Working Space, Add</i>	6.62	
		<i>For Threaded Fittings, Add</i>	3.31	
23 21 13 23-2459	EA	1" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	33.69	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
		<i>For Threaded Fittings, Add</i>	4.10	
23 21 13 23-2460	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	47.12	25.86
		<i>For Work In Restricted Working Space, Add</i>	11.61	
		<i>For Threaded Fittings, Add</i>	5.81	
23 21 13 23-2461	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	52.65	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
		<i>For Threaded Fittings, Add</i>	6.55	
23 21 13 23-2462	EA	2" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	66.37	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
		<i>For Threaded Fittings, Add</i>	8.32	
23 21 13 23-2463	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	107.64	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
		<i>For Threaded Fittings, Add</i>	12.31	
23 21 13 23-2464	EA	3" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	136.72	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
		<i>For Threaded Fittings, Add</i>	16.20	
23 21 13 23-2465	EA	4" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	171.88	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
		<i>For Threaded Fittings, Add</i>	19.24	
23 21 13 23-2466	EA	6" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	304.18	97.78
		<i>For Work In Restricted Working Space, Add</i>	43.97	
		<i>For Threaded Fittings, Add</i>	21.99	
23 21 13 23-2467	EA	8" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	513.60	114.10
		<i>For Work In Restricted Working Space, Add</i>	51.30	
		<i>For Threaded Fittings, Add</i>	25.65	
23 21 13 23-2468	EA	10" Schedule 80 Polyvinyl Chloride (PVC) 90 Degree Elbows	641.11	170.11
		<i>For Work In Restricted Working Space, Add</i>	76.49	
		<i>For Threaded Fittings, Add</i>	38.25	
23 21 13 23-2469		Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows (23 21 13 23-2442)		
23 21 13 23-2470	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	22.29	11.08
		<i>For Work In Restricted Working Space, Add</i>	4.97	
		<i>For Threaded Fittings, Add</i>	2.48	
23 21 13 23-2471	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	30.81	14.67
		<i>For Work In Restricted Working Space, Add</i>	6.62	
		<i>For Threaded Fittings, Add</i>	3.31	
23 21 13 23-2472	EA	1" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	40.51	18.26
		<i>For Work In Restricted Working Space, Add</i>	8.21	
		<i>For Threaded Fittings, Add</i>	4.10	
23 21 13 23-2473	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	55.53	25.86
		<i>For Work In Restricted Working Space, Add</i>	11.61	
		<i>For Threaded Fittings, Add</i>	5.81	
23 21 13 23-2474	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	63.47	29.14
		<i>For Work In Restricted Working Space, Add</i>	13.10	
		<i>For Threaded Fittings, Add</i>	6.55	
23 21 13 23-2475	EA	2" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	81.19	37.04
		<i>For Work In Restricted Working Space, Add</i>	16.64	
		<i>For Threaded Fittings, Add</i>	8.32	
23 21 13 23-2476	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	136.20	54.79
		<i>For Work In Restricted Working Space, Add</i>	24.62	
		<i>For Threaded Fittings, Add</i>	12.31	
23 21 13 23-2477	EA	3" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	173.86	72.03
		<i>For Work In Restricted Working Space, Add</i>	32.40	
		<i>For Threaded Fittings, Add</i>	16.20	
23 21 13 23-2478	EA	4" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	246.90	85.57
		<i>For Work In Restricted Working Space, Add</i>	38.48	
		<i>For Threaded Fittings, Add</i>	19.24	
23 21 13 23-2479	EA	6" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	295.95	97.78
		<i>For Work In Restricted Working Space, Add</i>	43.97	
		<i>For Threaded Fittings, Add</i>	21.99	
23 21 13 23-2480	EA	8" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	494.88	114.10
		<i>For Work In Restricted Working Space, Add</i>	51.30	
		<i>For Threaded Fittings, Add</i>	25.65	
23 21 13 23-2481	EA	10" Schedule 80 Polyvinyl Chloride (PVC) 45 Degree Elbows	620.07	170.11
		<i>For Work In Restricted Working Space, Add</i>	76.49	
		<i>For Threaded Fittings, Add</i>	38.25	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Hydronic Piping and Pumps			23 21	

MINOR				TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION				UNIT COST		UNIT COST
23 21 13 23-2482	Schedule 80 Polyvinyl Chloride (PVC) Tees (23 21 13 23-2442)					
23 21 13 23-2483	EA	1/2"	Schedule 80 Polyvinyl Chloride (PVC) Tees	34.56		17.34
			For Work In Restricted Working Space, Add	7.79		
			For Threaded Fittings, Add	3.90		
23 21 13 23-2484	EA	3/4"	Schedule 80 Polyvinyl Chloride (PVC) Tees	42.09		22.06
			For Work In Restricted Working Space, Add	9.93		
			For Threaded Fittings, Add	4.97		
23 21 13 23-2485	EA	1"	Schedule 80 Polyvinyl Chloride (PVC) Tees	54.90		29.14
			For Work In Restricted Working Space, Add	13.10		
			For Threaded Fittings, Add	6.55		
23 21 13 23-2486	EA	1-1/4"	Schedule 80 Polyvinyl Chloride (PVC) Tees	86.52		37.04
			For Work In Restricted Working Space, Add	16.64		
			For Threaded Fittings, Add	8.32		
23 21 13 23-2487	EA	1-1/2"	Schedule 80 Polyvinyl Chloride (PVC) Tees	97.25		44.12
			For Work In Restricted Working Space, Add	19.86		
			For Threaded Fittings, Add	9.93		
23 21 13 23-2488	EA	2"	Schedule 80 Polyvinyl Chloride (PVC) Tees	120.96		54.79
			For Work In Restricted Working Space, Add	24.62		
			For Threaded Fittings, Add	12.31		
23 21 13 23-2489	EA	2-1/2"	Schedule 80 Polyvinyl Chloride (PVC) Tees	150.30		72.03
			For Work In Restricted Working Space, Add	32.40		
			For Threaded Fittings, Add	16.20		
23 21 13 23-2490	EA	3"	Schedule 80 Polyvinyl Chloride (PVC) Tees	181.05		85.57
			For Work In Restricted Working Space, Add	38.48		
			For Threaded Fittings, Add	19.24		
23 21 13 23-2491	EA	4"	Schedule 80 Polyvinyl Chloride (PVC) Tees	232.20		114.10
			For Work In Restricted Working Space, Add	51.30		
			For Threaded Fittings, Add	25.65		
23 21 13 23-2492	EA	6"	Schedule 80 Polyvinyl Chloride (PVC) Tees	429.72		147.14
			For Work In Restricted Working Space, Add	66.20		
			For Threaded Fittings, Add	33.10		
23 21 13 23-2493	EA	8"	Schedule 80 Polyvinyl Chloride (PVC) Tees	758.51		182.54
			For Work In Restricted Working Space, Add	82.08		
			For Threaded Fittings, Add	41.04		
23 21 13 23-2494	EA	10"	Schedule 80 Polyvinyl Chloride (PVC) Tees	1,835.87		272.72
			For Work In Restricted Working Space, Add	122.67		
			For Threaded Fittings, Add	61.34		
23 21 13 23-2495	Schedule 80 Polyvinyl Chloride (PVC) Crosses (23 21 13 23-2442)					
23 21 13 23-2496	EA	1/2"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	45.91		21.64
			For Work In Restricted Working Space, Add	9.74		
			For Threaded Fittings, Add	4.87		
23 21 13 23-2497	EA	3/4"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	55.46		27.60
			For Work In Restricted Working Space, Add	12.41		
			For Threaded Fittings, Add	6.21		
23 21 13 23-2498	EA	1"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	72.20		36.43
			For Work In Restricted Working Space, Add	16.37		
			For Threaded Fittings, Add	8.19		
23 21 13 23-2499	EA	1-1/4"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	118.01		46.27
			For Work In Restricted Working Space, Add	20.80		
			For Threaded Fittings, Add	10.40		
23 21 13 23-2500	EA	1-1/2"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	131.43		55.20
			For Work In Restricted Working Space, Add	24.83		
			For Threaded Fittings, Add	12.41		
23 21 13 23-2501	EA	2"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	163.55		68.44
			For Work In Restricted Working Space, Add	30.78		
			For Threaded Fittings, Add	15.39		
23 21 13 23-2502	EA	2-1/2"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	201.32		90.09
			For Work In Restricted Working Space, Add	40.50		
			For Threaded Fittings, Add	20.25		
23 21 13 23-2503	EA	3"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	243.07		106.91
			For Work In Restricted Working Space, Add	48.10		
			For Threaded Fittings, Add	24.05		
23 21 13 23-2504	EA	4"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	309.69		142.62
			For Work In Restricted Working Space, Add	64.13		
			For Threaded Fittings, Add	32.06		
23 21 13 23-2505	EA	6"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	603.43		183.87
			For Work In Restricted Working Space, Add	82.71		
			For Threaded Fittings, Add	41.36		
23 21 13 23-2506	EA	8"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	1,101.95		227.98
			For Work In Restricted Working Space, Add	102.55		
			For Threaded Fittings, Add	51.27		
23 21 13 23-2507	EA	10"	Schedule 80 Polyvinyl Chloride (PVC) Crosses	2,748.30		341.05
			For Work In Restricted Working Space, Add	153.42		
			For Threaded Fittings, Add	76.71		
23 21 13 23-2508	Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts (23 21 13 23-2442)					
23 21 13 23-2509	EA	3/4"	Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts	23.82		14.67
			For Work In Restricted Working Space, Add	6.62		
23 21 13 23-2510	EA	1"	Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts	32.44		18.26
			For Work In Restricted Working Space, Add	8.21		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2511	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts..... <i>For Work In Restricted Working Space, Add</i>	46.70 11.61	25.86
23 21 13 23-2512	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts..... <i>For Work In Restricted Working Space, Add</i>	54.57 13.10	29.14
23 21 13 23-2513	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts..... <i>For Work In Restricted Working Space, Add</i>	71.03 16.64	37.04
23 21 13 23-2514	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts..... <i>For Work In Restricted Working Space, Add</i>	109.05 24.62	54.79
23 21 13 23-2515	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts..... <i>For Work In Restricted Working Space, Add</i>	150.87 32.40	72.03
23 21 13 23-2516	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts..... <i>For Work In Restricted Working Space, Add</i>	187.70 38.48	85.57
23 21 13 23-2517	EA	6" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts..... <i>For Work In Restricted Working Space, Add</i>	212.51 43.97	97.78
23 21 13 23-2518	EA	8" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts..... <i>For Work In Restricted Working Space, Add</i>	317.36 51.30	114.10
23 21 13 23-2519	EA	10" Schedule 80 Polyvinyl Chloride (PVC) Reducing Inserts..... <i>For Work In Restricted Working Space, Add</i>	511.68 59.60	132.47
23 21 13 23-2520 Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts (23 21 13 23-2442)				
23 21 13 23-2521	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	17.13 4.97	11.08
23 21 13 23-2522	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	25.32 6.62	14.67
23 21 13 23-2523	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	32.44 8.21	18.26
23 21 13 23-2524	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	49.03 11.61	25.86
23 21 13 23-2525	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	56.65 13.10	29.14
23 21 13 23-2526	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	71.36 16.64	37.04
23 21 13 23-2527	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	115.71 24.62	54.79
23 21 13 23-2528	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	170.27 32.40	72.03
23 21 13 23-2529	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Threaded Reducing Inserts <i>For Work In Restricted Working Space, Add</i>	224.00 38.48	85.57
23 21 13 23-2530 Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters (23 21 13 23-2442)				
23 21 13 23-2531	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters..... <i>For Work In Restricted Working Space, Add</i>	23.63 4.97	11.08
23 21 13 23-2532	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters..... <i>For Work In Restricted Working Space, Add</i>	29.90 6.62	14.67
23 21 13 23-2533	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters..... <i>For Work In Restricted Working Space, Add</i>	41.01 8.21	18.26
23 21 13 23-2534	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters..... <i>For Work In Restricted Working Space, Add</i>	54.70 11.61	25.86
23 21 13 23-2535	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters..... <i>For Work In Restricted Working Space, Add</i>	66.64 13.10	29.14
23 21 13 23-2536	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters..... <i>For Work In Restricted Working Space, Add</i>	85.43 16.64	37.04
23 21 13 23-2537	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters..... <i>For Work In Restricted Working Space, Add</i>	116.21 24.62	54.79
23 21 13 23-2538	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters..... <i>For Work In Restricted Working Space, Add</i>	145.88 32.40	72.03
23 21 13 23-2539	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Male Adapters..... <i>For Work In Restricted Working Space, Add</i>	195.61 38.48	85.57
23 21 13 23-2540 Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters (23 21 13 23-2442)				
23 21 13 23-2541	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters..... <i>For Work In Restricted Working Space, Add</i>	21.71 4.97	11.08
23 21 13 23-2542	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters..... <i>For Work In Restricted Working Space, Add</i>	29.73 6.62	14.67
23 21 13 23-2543	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters..... <i>For Work In Restricted Working Space, Add</i>	38.68 8.21	18.26
23 21 13 23-2544	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters <i>For Work In Restricted Working Space, Add</i>	57.11 11.61	25.86
23 21 13 23-2545	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters <i>For Work In Restricted Working Space, Add</i>	66.22 13.10	29.14
23 21 13 23-2546	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters..... <i>For Work In Restricted Working Space, Add</i>	94.75 16.64	37.04
23 21 13 23-2547	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters <i>For Work In Restricted Working Space, Add</i>	144.19 24.62	54.79
23 21 13 23-2548	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters..... <i>For Work In Restricted Working Space, Add</i>	177.93 32.40	72.03
23 21 13 23-2549	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Socket Weld X Threaded Female Adapters..... <i>For Work In Restricted Working Space, Add</i>	248.47 38.48	85.57



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2550			Schedule 80 Polyvinyl Chloride (PVC) Couplings (23 21 13 23-2442)		
23 21 13 23-2551	EA		1/2" Schedule 80 Polyvinyl Chloride (PVC) Couplings.....	22.04	11.08
			For Work In Restricted Working Space, Add	4.97	
			For Threaded Fittings, Add	2.48	
23 21 13 23-2552	EA		3/4" Schedule 80 Polyvinyl Chloride (PVC) Couplings.....	29.48	14.67
			For Work In Restricted Working Space, Add	6.62	
			For Threaded Fittings, Add	3.31	
23 21 13 23-2553	EA		1" Schedule 80 Polyvinyl Chloride (PVC) Couplings	35.02	18.26
			For Work In Restricted Working Space, Add	8.21	
			For Threaded Fittings, Add	4.10	
23 21 13 23-2554	EA		1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Couplings	50.45	25.86
			For Work In Restricted Working Space, Add	11.61	
			For Threaded Fittings, Add	5.81	
23 21 13 23-2555	EA		1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Couplings	56.31	29.14
			For Work In Restricted Working Space, Add	13.10	
			For Threaded Fittings, Add	6.55	
23 21 13 23-2556	EA		2" Schedule 80 Polyvinyl Chloride (PVC) Couplings	68.95	37.04
			For Work In Restricted Working Space, Add	16.64	
			For Threaded Fittings, Add	8.32	
23 21 13 23-2557	EA		2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Couplings	115.46	54.79
			For Work In Restricted Working Space, Add	24.62	
			For Threaded Fittings, Add	12.31	
23 21 13 23-2558	EA		3" Schedule 80 Polyvinyl Chloride (PVC) Couplings	146.38	72.03
			For Work In Restricted Working Space, Add	32.40	
			For Threaded Fittings, Add	16.20	
23 21 13 23-2559	EA		4" Schedule 80 Polyvinyl Chloride (PVC) Couplings	176.38	85.57
			For Work In Restricted Working Space, Add	38.48	
			For Threaded Fittings, Add	19.24	
23 21 13 23-2560	EA		6" Schedule 80 Polyvinyl Chloride (PVC) Couplings	250.06	97.78
			For Work In Restricted Working Space, Add	43.97	
			For Threaded Fittings, Add	21.99	
23 21 13 23-2561	EA		8" Schedule 80 Polyvinyl Chloride (PVC) Couplings	311.87	114.10
			For Work In Restricted Working Space, Add	51.30	
			For Threaded Fittings, Add	25.65	
23 21 13 23-2562	EA		10" Schedule 80 Polyvinyl Chloride (PVC) Couplings	599.55	122.30
			For Work In Restricted Working Space, Add	54.99	
			For Threaded Fittings, Add	27.50	
23 21 13 23-2563			Schedule 80 Polyvinyl Chloride (PVC) Unions (23 21 13 23-2442)		
23 21 13 23-2564	EA		1/2" Schedule 80 Polyvinyl Chloride (PVC) Unions	39.68	18.26
			For Work In Restricted Working Space, Add	8.21	
23 21 13 23-2565	EA		3/4" Schedule 80 Polyvinyl Chloride (PVC) Unions	47.34	22.06
			For Work In Restricted Working Space, Add	9.93	
23 21 13 23-2566	EA		1" Schedule 80 Polyvinyl Chloride (PVC) Unions	59.89	29.14
			For Work In Restricted Working Space, Add	13.10	
23 21 13 23-2567	EA		1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Unions	96.09	37.04
			For Work In Restricted Working Space, Add	16.64	
23 21 13 23-2568	EA		1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Unions	118.47	44.12
			For Work In Restricted Working Space, Add	19.86	
23 21 13 23-2569	EA		2" Schedule 80 Polyvinyl Chloride (PVC) Unions	152.93	54.79
			For Work In Restricted Working Space, Add	24.62	
23 21 13 23-2570	EA		2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Unions	239.91	72.03
			For Work In Restricted Working Space, Add	32.40	
23 21 13 23-2571	EA		3" Schedule 80 Polyvinyl Chloride (PVC) Unions	298.29	85.57
			For Work In Restricted Working Space, Add	38.48	
23 21 13 23-2572	EA		4" Schedule 80 Polyvinyl Chloride (PVC) Unions	376.89	114.10
			For Work In Restricted Working Space, Add	51.30	
23 21 13 23-2573	EA		6" Schedule 80 Polyvinyl Chloride (PVC) Unions	495.87	147.14
			For Work In Restricted Working Space, Add	66.17	
23 21 13 23-2574	EA		8" Schedule 80 Polyvinyl Chloride (PVC) Unions	727.68	182.43
			For Work In Restricted Working Space, Add	82.04	
23 21 13 23-2575	EA		10" Schedule 80 Polyvinyl Chloride (PVC) Unions	1,087.70	226.14
			For Work In Restricted Working Space, Add	101.71	
23 21 13 23-2576			Schedule 80 Polyvinyl Chloride (PVC) Threaded Unions (23 21 13 23-2442)		
23 21 13 23-2577	EA		1/2", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union.....	41.67	22.80
23 21 13 23-2578	EA		3/4", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union.....	49.96	26.37
23 21 13 23-2579	EA		1", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union.....	60.68	31.09
23 21 13 23-2580	EA		1-1/4", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union	82.17	37.04
23 21 13 23-2581	EA		1-1/2", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union	99.11	44.12
23 21 13 23-2582	EA		2", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union	132.34	54.79
23 21 13 23-2583	EA		3", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union.....	286.50	106.20
23 21 13 23-2584	EA		4", Scheduler 80, Polyvinyl Chloride (PVC) Threaded Union.....	310.12	117.79
23 21 13 23-2585			Schedule 80 Polyvinyl Chloride (PVC) Caps (23 21 13 23-2442)		
23 21 13 23-2586	EA		1/2" Schedule 80 Polyvinyl Chloride (PVC) Caps	15.19	4.93
			For Work In Restricted Working Space, Add	2.24	
			For Threaded Fittings, Add	1.12	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2587	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) Caps	18.10	6.57
		For Work In Restricted Working Space, Add	2.98	
		For Threaded Fittings, Add	1.49	
23 21 13 23-2588	EA	1" Schedule 80 Polyvinyl Chloride (PVC) Caps	26.80	8.10
		For Work In Restricted Working Space, Add	3.69	
		For Threaded Fittings, Add	1.85	
23 21 13 23-2589	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) Caps	34.90	11.49
		For Work In Restricted Working Space, Add	5.23	
		For Threaded Fittings, Add	2.67	
23 21 13 23-2590	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) Caps	37.13	12.93
		For Work In Restricted Working Space, Add	5.90	
		For Threaded Fittings, Add	2.95	
23 21 13 23-2591	EA	2" Schedule 80 Polyvinyl Chloride (PVC) Caps	51.17	16.52
		For Work In Restricted Working Space, Add	7.49	
		For Threaded Fittings, Add	3.74	
23 21 13 23-2592	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) Caps	90.80	24.42
		For Work In Restricted Working Space, Add	11.08	
		For Threaded Fittings, Add	5.54	
23 21 13 23-2593	EA	3" Schedule 80 Polyvinyl Chloride (PVC) Caps	114.45	32.11
		For Work In Restricted Working Space, Add	14.58	
		For Threaded Fittings, Add	7.29	
23 21 13 23-2594	EA	4" Schedule 80 Polyvinyl Chloride (PVC) Caps	163.62	38.07
		For Work In Restricted Working Space, Add	17.32	
		For Threaded Fittings, Add	8.66	
23 21 13 23-2595	EA	6" Schedule 80 Polyvinyl Chloride (PVC) Caps	329.04	43.50
		For Work In Restricted Working Space, Add	19.79	
		For Threaded Fittings, Add	9.89	
23 21 13 23-2596	EA	8" Schedule 80 Polyvinyl Chloride (PVC) Caps	438.36	50.79
		For Work In Restricted Working Space, Add	23.09	
		For Threaded Fittings, Add	11.54	
23 21 13 23-2597	EA	10" Schedule 80 Polyvinyl Chloride (PVC) Caps	780.18	75.73
		For Work In Restricted Working Space, Add	34.42	
		For Threaded Fittings, Add	17.21	
23 21 13 23-2598		Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges (23 21 13 23-2442)		
23 21 13 23-2599	EA	1/2" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	51.25	18.26
		For Work In Restricted Working Space, Add	8.21	
		For Threaded Fittings, Add	4.10	
23 21 13 23-2600	EA	3/4" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	58.74	22.06
		For Work In Restricted Working Space, Add	9.93	
		For Threaded Fittings, Add	4.97	
23 21 13 23-2601	EA	1" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	72.22	29.14
		For Work In Restricted Working Space, Add	13.10	
		For Threaded Fittings, Add	6.55	
23 21 13 23-2602	EA	1-1/4" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	84.85	37.04
		For Work In Restricted Working Space, Add	16.64	
		For Threaded Fittings, Add	8.32	
23 21 13 23-2603	EA	1-1/2" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	96.24	44.12
		For Work In Restricted Working Space, Add	19.86	
		For Threaded Fittings, Add	9.93	
23 21 13 23-2604	EA	2" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	122.04	54.79
		For Work In Restricted Working Space, Add	24.62	
		For Threaded Fittings, Add	12.31	
23 21 13 23-2605	EA	2-1/2" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	169.69	72.03
		For Work In Restricted Working Space, Add	32.40	
		For Threaded Fittings, Add	16.20	
23 21 13 23-2606	EA	3" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	196.36	85.57
		For Work In Restricted Working Space, Add	38.48	
		For Threaded Fittings, Add	19.24	
23 21 13 23-2607	EA	4" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	257.26	114.10
		For Work In Restricted Working Space, Add	51.30	
		For Threaded Fittings, Add	25.65	
23 21 13 23-2608	EA	6" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	356.18	147.14
		For Work In Restricted Working Space, Add	66.17	
		For Threaded Fittings, Add	33.08	
23 21 13 23-2609	EA	8" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	579.42	182.43
		For Work In Restricted Working Space, Add	82.04	
		For Threaded Fittings, Add	41.02	
23 21 13 23-2610	EA	10" Schedule 80 Polyvinyl Chloride (PVC) 150 LB Flanges	1,028.59	226.14
		For Work In Restricted Working Space, Add	101.71	
		For Threaded Fittings, Add	50.85	
23 21 13 23-2611		Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe (23 21 13 23-2279)		
		Note: In place pipe.		
23 21 13 23-2612	EA	1/2", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe	5.57	
		For Work In Restricted Working Space, Add	1.67	
23 21 13 23-2613	EA	3/4", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe	6.01	
		For Work In Restricted Working Space, Add	1.80	
23 21 13 23-2614	EA	1", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe	6.77	
		For Work In Restricted Working Space, Add	2.03	
23 21 13 23-2615	EA	1-1/4", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe	7.10	
		For Work In Restricted Working Space, Add	2.13	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2616	EA	1-1/2", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	7.52 2.26	
23 21 13 23-2617	EA	2", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	8.28 2.48	
23 21 13 23-2618	EA	2-1/2", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	8.91 2.67	
23 21 13 23-2619	EA	3", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	10.52 3.16	
23 21 13 23-2620	EA	4", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	14.20 4.26	
23 21 13 23-2621	EA	6", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	20.30 6.09	
23 21 13 23-2622	EA	8", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	27.07 8.12	
23 21 13 23-2623	EA	10", Cut And Prepare Existing Polyvinyl Chloride (PVC) Pressure Pipe..... <i>For Work In Restricted Working Space, Add</i>	33.10 9.93	
23 21 13 23-2624		Polyvinylidene Fluoride (PVDF), Socket Weld (23 21 13 23)		
23 21 13 23-2625		Pipe (23 21 13 23-2624)		
23 21 13 23-2626	LF	1/2" Pipe Schedule 40 Polyvinylidene Fluoride (PVDF) Socket Weld.....	34.58	2.97
23 21 13 23-2627	LF	3/4" Pipe Schedule 40 Polyvinylidene Fluoride (PVDF) Socket Weld.....	46.27	3.70
23 21 13 23-2628	LF	1" Pipe Schedule 40 Polyvinylidene Fluoride (PVDF) Socket Weld.....	65.26	3.90
23 21 13 23-2629	LF	1-1/2" Schedule 40 Polyvinylidene Fluoride (PVDF) Socket Weld.....	91.24	4.31
23 21 13 23-2630	LF	2" Pipe Schedule 40 Polyvinylidene Fluoride (PVDF) Socket Weld.....	115.61	5.13
23 21 13 23-2631		90 Degree Elbows (23 21 13 23-2624)		
23 21 13 23-2632	EA	1/2" 90 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	47.51	10.98
23 21 13 23-2633	EA	3/4" 90 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	63.44	14.67
23 21 13 23-2634	EA	1" 90 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	106.20	18.26
23 21 13 23-2635	EA	1-1/2" 90 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	184.86	29.14
23 21 13 23-2636	EA	2" 90 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	241.21	37.04
23 21 13 23-2637		45 Degree Elbows (23 21 13 23-2624)		
23 21 13 23-2638	EA	1/2" 45 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	55.32	11.08
23 21 13 23-2639	EA	3/4" 45 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	74.44	14.67
23 21 13 23-2640	EA	1" 45 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	106.20	18.26
23 21 13 23-2641	EA	1-1/2" 45 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	158.53	29.14
23 21 13 23-2642	EA	2" 45 Degree Elbow, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	234.27	37.04
23 21 13 23-2643		Tees (23 21 13 23-2624)		
23 21 13 23-2644	EA	1/2" Tee, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	88.70	18.26
23 21 13 23-2645	EA	3/4" Tee, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	98.20	22.06
23 21 13 23-2646	EA	1" Tee, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	142.90	29.14
23 21 13 23-2647	EA	1-1/2" Tee, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	236.03	44.12
23 21 13 23-2648	EA	2" Tee, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	349.43	54.79
23 21 13 23-2649		Reducing Tees (23 21 13 23-2624)		
23 21 13 23-2650	EA	3/4" x 1/2" Reducing Tees, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	101.08	20.52
23 21 13 23-2651	EA	1" x 1/2" Reducing Insert, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	142.66	23.91
23 21 13 23-2652	EA	1" x 3/4" Reducing Insert, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	145.75	25.96
23 21 13 23-2653	EA	1-1/2" x 1" Reducing Tees, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	252.16	36.94
23 21 13 23-2654	EA	2" x 1-1/2" Reducing Tees, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	379.13	49.25
23 21 13 23-2655		Socket Weld Reducing Couplings (23 21 13 23-2624)		
23 21 13 23-2656	EA	3/4" x 1/2" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	53.92	13.03
23 21 13 23-2657	EA	1" x 1/2" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	69.44	15.08
23 21 13 23-2658	EA	1" x 3/4" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	76.28	17.13
23 21 13 23-2659	EA	1-1/2" x 1/2" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	117.58	20.52
23 21 13 23-2660	EA	1-1/2" x 3/4" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	125.58	22.57
23 21 13 23-2661	EA	1-1/2" x 1" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	127.63	23.91
23 21 13 23-2662	EA	2" x 1-1/2" Reducing Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	179.90	33.56
23 21 13 23-2663		Male Adapters, Socket Weld X Male Thread (23 21 13 23-2624)		
23 21 13 23-2664	EA	1/2" Male Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	77.89	11.08
23 21 13 23-2665	EA	3/4" Male Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	99.32	14.67
23 21 13 23-2666	EA	1" Male Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	114.16	18.26
23 21 13 23-2667	EA	1-1/2" Male Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	145.51	29.14
23 21 13 23-2668	EA	2" Male Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	198.05	36.94
23 21 13 23-2669		Female Adapters, Socket Weld X Female Thread (23 21 13 23-2624)		
23 21 13 23-2670	EA	1/2" Female Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	77.89	11.08

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2671 EA 3/4" Female Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	99.61	14.67
23 21 13 23-2672 EA 1" Female Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	114.16	18.26
23 21 13 23-2673 EA 1-1/2" Female Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	145.51	29.14
23 21 13 23-2674 EA 2" Female Adapter, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	198.10	37.04
23 21 13 23-2675 Socket Weld Couplings (23 21 13 23-2624)		
23 21 13 23-2676 EA 1/2" Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	38.25	11.08
23 21 13 23-2677 EA 3/4" Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	48.98	14.67
23 21 13 23-2678 EA 1" Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	63.53	18.26
23 21 13 23-2679 EA 1-1/2" Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	118.89	29.14
23 21 13 23-2680 EA 2" Coupling, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	163.96	37.04
23 21 13 23-2681 Socket Weld Unions (23 21 13 23-2624)		
23 21 13 23-2682 EA 1/2" Union, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	161.90	18.26
23 21 13 23-2683 EA 3/4" Union, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	193.97	22.06
23 21 13 23-2684 EA 1" Union, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	280.05	29.14
23 21 13 23-2685 EA 1-1/2" Union, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	492.96	44.12
23 21 13 23-2686 EA 2" Union, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	607.22	54.79
23 21 13 23-2687 Caps (23 21 13 23-2624)		
23 21 13 23-2688 EA 1/2" Cap, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	29.74	5.52
23 21 13 23-2689 EA 3/4" Cap, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	42.13	7.35
23 21 13 23-2690 EA 1" Cap, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	52.99	9.09
23 21 13 23-2691 EA 1-1/2" Cap, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	94.17	14.54
23 21 13 23-2692 EA 2" Cap, Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld	134.18	18.45
23 21 13 23-2693 150 LB Socket Weld Flanges (23 21 13 23-2624)		
23 21 13 23-2694 EA 1/2" Flange, 150 LB Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	108.66	18.47
23 21 13 23-2695 EA 3/4" Flange, 150 LB Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	137.26	21.86
23 21 13 23-2696 EA 1" Flange, 150 LB Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	180.80	29.44
23 21 13 23-2697 EA 1-1/2" Flange, 150 LB Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	260.04	44.53
23 21 13 23-2698 EA 2" Flange, 150 LB Polyvinylidene Fluoride (PVDF) Schedule 40 Socket Weld.....	414.82	54.79
23 21 13 23-2699 Polyethylene Pipe And Fittings (23 21 13 23)		
23 21 13 23-2700 Small Diameter Tubing (23 21 13 23-2669)		
23 21 13 23-2701 Tubing (23 21 13 23-2700)		
23 21 13 23-2702 LF 1/4" Polyethylene Tubing.....	3.37	
For Work In Restricted Working Space, Add.....	0.93	
23 21 13 23-2703 LF 5/16" Polyethylene Tubing.....	3.68	
For Work In Restricted Working Space, Add.....	0.95	
23 21 13 23-2704 LF 3/8" Polyethylene Tubing.....	3.89	
For Work In Restricted Working Space, Add.....	0.97	
23 21 13 23-2705 LF 1/2" Polyethylene Tubing.....	3.98	
For Work In Restricted Working Space, Add.....	1.04	
23 21 13 23-2706 Chrome Plated Pipe (23 21 13 23)		
23 21 13 23-2707 Chrome Plated Nipples (23 21 13 23-2706)		
23 21 13 23-2708 Close (23 21 13 23-2707)		
23 21 13 23-2709 EA 1/4" Diameter Chrome Plated Nipple, Close.....	19.93	8.91
23 21 13 23-2710 EA 3/8" Diameter Chrome Plated Nipple, Close.....	19.04	9.69
23 21 13 23-2711 EA 1/2" Diameter Chrome Plated Nipple, Close.....	23.69	11.14
23 21 13 23-2712 EA 3/4" Diameter Chrome Plated Nipple, Close.....	31.09	14.15
23 21 13 23-2713 EA 1" Diameter Chrome Plated Nipple, Close.....	41.64	18.60
23 21 13 23-2714 EA 1-1/4" Diameter Chrome Plated Nipple, Close.....	58.99	25.96
23 21 13 23-2715 EA 1-1/2" Diameter Chrome Plated Nipple, Close.....	72.01	30.42
23 21 13 23-2716 EA 2" Diameter Chrome Plated Nipple, Close.....	92.84	37.88
23 21 13 23-2717 1-1/2" Nipples (23 21 13 23-2707)		
23 21 13 23-2718 EA 1/4" Diameter, 1-1/2" Length, Chrome Plated Nipple.....	21.30	9.25
23 21 13 23-2719 EA 3/8" Diameter, 1-1/2" Length, Chrome Plated Nipple.....	20.11	10.03
23 21 13 23-2720 EA 1/2" Diameter, 1-1/2" Length, Chrome Plated Nipple.....	24.27	11.47
23 21 13 23-2721 EA 3/4" Diameter, 1-1/2" Length, Chrome Plated Nipple.....	32.20	14.48
23 21 13 23-2722 2" Nipples (23 21 13 23-2707)		
23 21 13 23-2723 EA 1/4" Diameter, 2" Length, Chrome Plated Nipple.....	22.16	9.69
23 21 13 23-2724 EA 3/8" Diameter, 2" Length, Chrome Plated Nipple.....	20.80	10.36
23 21 13 23-2725 EA 1/2" Diameter, 2" Length, Chrome Plated Nipple.....	26.16	11.92
23 21 13 23-2726 EA 3/4" Diameter, 2" Length, Chrome Plated Nipple.....	33.80	14.82
23 21 13 23-2727 EA 1" Diameter, 2" Length, Chrome Plated Nipple.....	44.05	19.28



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2728	EA	1-1/4" Diameter, 2" Length, Chrome Plated Nipple.....	62.93	26.74
23 21 13 23-2729	EA	1-1/2" Diameter, 2" Length, Chrome Plated Nipple.....	76.58	31.20
23 21 13 23-2730		2-1/2" Nipples (23 21 13 23-2707)		
23 21 13 23-2731	EA	1/4" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	23.43	10.03
23 21 13 23-2732	EA	3/8" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	21.56	10.81
23 21 13 23-2733	EA	1/2" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	27.29	12.26
23 21 13 23-2734	EA	3/4" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	34.61	15.27
23 21 13 23-2735	EA	1" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	45.30	18.72
23 21 13 23-2736	EA	1-1/4" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	66.76	27.07
23 21 13 23-2737	EA	1-1/2" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	81.68	31.53
23 21 13 23-2738	EA	2" Diameter, 2-1/2" Length, Chrome Plated Nipple.....	103.94	39.00
23 21 13 23-2739		3" Nipples (23 21 13 23-2707)		
23 21 13 23-2740	EA	1/4" Diameter, 3" Length, Chrome Plated Nipple.....	24.41	10.36
23 21 13 23-2741	EA	3/8" Diameter, 3" Length, Chrome Plated Nipple.....	22.85	11.14
23 21 13 23-2742	EA	1/2" Diameter, 3" Length, Chrome Plated Nipple.....	26.95	11.92
23 21 13 23-2743	EA	3/4" Diameter, 3" Length, Chrome Plated Nipple.....	37.39	15.60
23 21 13 23-2744	EA	1" Diameter, 3" Length, Chrome Plated Nipple.....	50.99	20.05
23 21 13 23-2745	EA	1-1/4" Diameter, 3" Length, Chrome Plated Nipple.....	70.92	27.52
23 21 13 23-2746	EA	1-1/2" Diameter, 3" Length, Chrome Plated Nipple.....	93.70	31.98
23 21 13 23-2747	EA	2" Diameter, 3" Length, Chrome Plated Nipple.....	113.36	39.44
23 21 13 23-2748		3-1/2" Nipples (23 21 13 23-2707)		
23 21 13 23-2749	EA	1/4" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	25.53	10.81
23 21 13 23-2750	EA	3/8" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	25.06	11.47
23 21 13 23-2751	EA	1/2" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	29.70	13.03
23 21 13 23-2752	EA	3/4" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	41.51	15.93
23 21 13 23-2753	EA	1" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	53.17	20.38
23 21 13 23-2754	EA	1-1/4" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	79.12	27.86
23 21 13 23-2755	EA	1-1/2" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	97.30	32.31
23 21 13 23-2756	EA	2" Diameter, 3-1/2" Length, Chrome Plated Nipple.....	120.86	39.77
23 21 13 23-2757		4" Nipples (23 21 13 23-2707)		
23 21 13 23-2758	EA	1/4" Diameter, 4" Length, Chrome Plated Nipple.....	26.64	11.14
23 21 13 23-2759	EA	3/8" Diameter, 4" Length, Chrome Plated Nipple.....	25.69	11.92
23 21 13 23-2760	EA	1/2" Diameter, 4" Length, Chrome Plated Nipple.....	29.98	12.59
23 21 13 23-2761	EA	3/4" Diameter, 4" Length, Chrome Plated Nipple.....	43.13	16.38
23 21 13 23-2762	EA	1" Diameter, 4" Length, Chrome Plated Nipple.....	55.26	20.84
23 21 13 23-2763	EA	1-1/4" Diameter, 4" Length, Chrome Plated Nipple.....	85.35	28.19
23 21 13 23-2764	EA	1-1/2" Diameter, 4" Length, Chrome Plated Nipple.....	104.69	32.64
23 21 13 23-2765	EA	2" Diameter, 4" Length, Chrome Plated Nipple.....	130.01	40.12
23 21 13 23-2766		4-1/2" Nipples (23 21 13 23-2707)		
23 21 13 23-2767	EA	1/4" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	27.62	11.47
23 21 13 23-2768	EA	3/8" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	27.89	12.26
23 21 13 23-2769	EA	1/2" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	32.89	13.71
23 21 13 23-2770	EA	3/4" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	44.98	16.71
23 21 13 23-2771	EA	1" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	62.48	21.17
23 21 13 23-2772	EA	1-1/4" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	91.34	28.63
23 21 13 23-2773	EA	1-1/2" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	107.99	33.10
23 21 13 23-2774	EA	2" Diameter, 4-1/2" Length, Chrome Plated Nipple.....	138.43	40.56
23 21 13 23-2775		5" Nipples (23 21 13 23-2707)		
23 21 13 23-2776	EA	1/4" Diameter, 5" Length, Chrome Plated Nipple.....	31.04	11.92
23 21 13 23-2777	EA	3/8" Diameter, 5" Length, Chrome Plated Nipple.....	29.27	12.59
23 21 13 23-2778	EA	1/2" Diameter, 5" Length, Chrome Plated Nipple.....	34.08	14.15
23 21 13 23-2779	EA	3/4" Diameter, 5" Length, Chrome Plated Nipple.....	46.76	17.05
23 21 13 23-2780	EA	1" Diameter, 5" Length, Chrome Plated Nipple.....	66.86	21.50
23 21 13 23-2781	EA	1-1/4" Diameter, 5" Length, Chrome Plated Nipple.....	96.77	28.97
23 21 13 23-2782	EA	1-1/2" Diameter, 5" Length, Chrome Plated Nipple.....	115.42	33.43
23 21 13 23-2783	EA	2" Diameter, 5" Length, Chrome Plated Nipple.....	143.86	40.89
23 21 13 23-2784		5-1/2" Nipples (23 21 13 23-2707)		
23 21 13 23-2785	EA	1/4" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	32.04	12.26
23 21 13 23-2786	EA	3/8" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	30.35	13.03
23 21 13 23-2787	EA	1/2" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	37.48	14.48
23 21 13 23-2788	EA	3/4" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	48.53	17.49
23 21 13 23-2789	EA	1" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	69.14	21.95
23 21 13 23-2790	EA	1-1/4" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	103.36	29.30
23 21 13 23-2791	EA	1-1/2" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	121.34	33.76
23 21 13 23-2792	EA	2" Diameter, 5-1/2" Length, Chrome Plated Nipple.....	150.78	41.22

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2793		6" Nipples (23 21 13 23-2707)		
23 21 13 23-2794	EA	1/4" Diameter, 6" Length, Chrome Plated Nipple.....	33.24	12.59
23 21 13 23-2795	EA	3/8" Diameter, 6" Length, Chrome Plated Nipple.....	30.94	13.38
23 21 13 23-2796	EA	1/2" Diameter, 6" Length, Chrome Plated Nipple.....	38.58	14.82
23 21 13 23-2797	EA	3/4" Diameter, 6" Length, Chrome Plated Nipple.....	49.98	17.83
23 21 13 23-2798	EA	1" Diameter, 6" Length, Chrome Plated Nipple.....	76.14	22.29
23 21 13 23-2799	EA	1-1/4" Diameter, 6" Length, Chrome Plated Nipple.....	107.41	29.75
23 21 13 23-2800	EA	1-1/2" Diameter, 6" Length, Chrome Plated Nipple.....	130.46	34.20
23 21 13 23-2801	EA	2" Diameter, 6" Length, Chrome Plated Nipple.....	157.12	41.67
23 21 13 23-2802		8" Nipples (23 21 13 23-2707)		
23 21 13 23-2803	EA	3/8" Diameter, 8" Length, Chrome Plated Nipple.....	37.13	14.15
23 21 13 23-2804	EA	1/2" Diameter, 8" Length, Chrome Plated Nipple.....	55.50	15.60
23 21 13 23-2805	EA	3/4" Diameter, 8" Length, Chrome Plated Nipple.....	67.52	18.60
23 21 13 23-2806	EA	1" Diameter, 8" Length, Chrome Plated Nipple.....	89.94	23.06
23 21 13 23-2807	EA	1-1/4" Diameter, 8" Length, Chrome Plated Nipple.....	129.35	30.42
23 21 13 23-2808	EA	1-1/2" Diameter, 8" Length, Chrome Plated Nipple.....	159.18	34.88
23 21 13 23-2809	EA	2" Diameter, 8" Length, Chrome Plated Nipple.....	196.22	42.34
23 21 13 23-2810		10" Nipples (23 21 13 23-2707)		
23 21 13 23-2811	EA	3/8" Diameter, 10" Length, Chrome Plated Nipple.....	43.09	14.15
23 21 13 23-2812	EA	1/2" Diameter, 10" Length, Chrome Plated Nipple.....	63.01	15.60
23 21 13 23-2813	EA	3/4" Diameter, 10" Length, Chrome Plated Nipple.....	76.22	18.60
23 21 13 23-2814	EA	1" Diameter, 10" Length, Chrome Plated Nipple.....	103.11	23.06
23 21 13 23-2815	EA	1-1/4" Diameter, 10" Length, Chrome Plated Nipple.....	157.54	30.42
23 21 13 23-2816	EA	1-1/2" Diameter, 10" Length, Chrome Plated Nipple.....	180.65	34.88
23 21 13 23-2817	EA	2" Diameter, 10" Length, Chrome Plated Nipple.....	230.54	42.34
23 21 13 23-2818		12" Nipples (23 21 13 23-2707)		
23 21 13 23-2819	EA	3/8" Diameter, 12" Length, Chrome Plated Nipple.....	48.10	15.60
23 21 13 23-2820	EA	1/2" Diameter, 12" Length, Chrome Plated Nipple.....	65.96	16.38
23 21 13 23-2821	EA	3/4" Diameter, 12" Length, Chrome Plated Nipple.....	84.34	19.28
23 21 13 23-2822	EA	1" Diameter, 12" Length, Chrome Plated Nipple.....	121.34	24.51
23 21 13 23-2823	EA	1-1/4" Diameter, 12" Length, Chrome Plated Nipple.....	177.02	31.98
23 21 13 23-2824	EA	2" Diameter, 12" Length, Chrome Plated Nipple.....	260.24	43.90
23 21 13 23-2825		18" Nipples (23 21 13 23-2707)		
23 21 13 23-2826	EA	3/8" Diameter, 18" Length, Chrome Plated Nipple.....	61.76	16.38
23 21 13 23-2827		24" Nipples (23 21 13 23-2707)		
23 21 13 23-2828	EA	3/8" Diameter, 24" Length, Chrome Plated Nipple.....	74.85	17.05
23 21 13 23-2829		30" Nipples (23 21 13 23-2707)		
23 21 13 23-2830	EA	3/8" Diameter, 30" Length, Chrome Plated Nipple.....	83.16	17.83
23 21 13 23-2831		36" Nipples (23 21 13 23-2707)		
23 21 13 23-2832	EA	3/8" Diameter, 36" Length, Chrome Plated Nipple.....	91.48	18.60
23 21 13 23-2833		Chrome Plated Fittings (23 21 13 23-2706)		
23 21 13 23-2834		Chrome Plated 90 Degree Elbows (23 21 13 23-2833)		
23 21 13 23-2835	EA	1/4" 90 Degree Elbow, Chrome Plated.....	25.63	10.36
23 21 13 23-2836	EA	3/8" 90 Degree Elbow, Chrome Plated.....	26.10	11.14
23 21 13 23-2837	EA	1/2" 90 Degree Elbow, Chrome Plated.....	29.43	11.92
23 21 13 23-2838	EA	3/4" 90 Degree Elbow, Chrome Plated.....	37.52	15.60
23 21 13 23-2839	EA	1" 90 Degree Elbow, Chrome Plated.....	51.04	20.05
23 21 13 23-2840	EA	1-1/4" 90 Degree Elbow, Chrome Plated.....	78.80	27.52
23 21 13 23-2841	EA	1-1/2" 90 Degree Elbow, Chrome Plated.....	94.76	31.98
23 21 13 23-2842	EA	2" 90 Degree Elbow, Chrome Plated.....	130.10	39.44
23 21 13 23-2843		Chrome Plated Street 90 Degree Elbows (23 21 13 23-2833)		
23 21 13 23-2844	EA	1/4" Street 90 Degree Elbow, Chrome Plated.....	29.84	10.36
23 21 13 23-2845	EA	3/8" Street 90 Degree Elbow, Chrome Plated.....	30.71	11.14
23 21 13 23-2846	EA	1/2" Street 90 Degree Elbow, Chrome Plated.....	32.64	11.92
23 21 13 23-2847	EA	3/4" Street 90 Degree Elbow, Chrome Plated.....	42.25	15.60
23 21 13 23-2848	EA	1" Street 90 Degree Elbow, Chrome Plated.....	59.77	20.05
23 21 13 23-2849	EA	1-1/4" Street 90 Degree Elbow, Chrome Plated.....	87.75	27.52
23 21 13 23-2850	EA	1-1/2" Street 90 Degree Elbow, Chrome Plated.....	107.29	31.98



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2851	EA	2" Street 90 Degree Elbow, Chrome Plated.....	159.58	39.44
23 21 13 23-2852		Chrome Plated 45 Degree Elbows (23 21 13 23-2833)		
23 21 13 23-2853	EA	1/4" 45 Degree Elbow, Chrome Plated	26.56	10.36
23 21 13 23-2854	EA	3/8" 45 Degree Elbow, Chrome Plated	27.43	11.14
23 21 13 23-2855	EA	1/2" 45 Degree Elbow, Chrome Plated	30.38	11.92
23 21 13 23-2856	EA	3/4" 45 Degree Elbow, Chrome Plated	41.13	15.60
23 21 13 23-2857	EA	1" 45 Degree Elbow, Chrome Plated	55.08	20.05
23 21 13 23-2858	EA	1-1/4" 45 Degree Elbow, Chrome Plated	83.66	27.52
23 21 13 23-2859	EA	1-1/2" 45 Degree Elbow, Chrome Plated	101.25	31.98
23 21 13 23-2860	EA	2" 45 Degree Elbow, Chrome Plated	147.94	39.44
23 21 13 23-2861		Chrome Plated Street 45 Degree Elbows (23 21 13 23-2833)		
23 21 13 23-2862	EA	1/2" Street 45 Degree Elbow, Chrome Plated.....	36.16	11.92
23 21 13 23-2863		Chrome Plated Couplings (23 21 13 23-2833)		
23 21 13 23-2864	EA	1/4" Coupling, Chrome Plated	25.06	10.36
23 21 13 23-2865	EA	3/8" Coupling, Chrome Plated	26.17	11.14
23 21 13 23-2866	EA	1/2" Coupling, Chrome Plated	29.67	11.92
23 21 13 23-2867	EA	3/4" Coupling, Chrome Plated	37.61	15.60
23 21 13 23-2868	EA	1" Coupling, Chrome Plated	49.05	20.05
23 21 13 23-2869	EA	1-1/4" Coupling, Chrome Plated	71.54	27.52
23 21 13 23-2870	EA	1-1/2" Coupling, Chrome Plated	88.67	31.98
23 21 13 23-2871	EA	2" Coupling, Chrome Plated	122.67	39.44
23 21 13 23-2872		Chrome Plated Unions (23 21 13 23-2833)		
23 21 13 23-2873	EA	1/4" Union, Chrome Plated	40.67	11.92
23 21 13 23-2874	EA	3/8" Union, Chrome Plated	41.81	12.59
23 21 13 23-2875	EA	1/2" Union, Chrome Plated	50.64	14.15
23 21 13 23-2876	EA	3/4" Union, Chrome Plated	62.70	18.60
23 21 13 23-2877	EA	1" Union, Chrome Plated	79.27	23.73
23 21 13 23-2878	EA	1-1/4" Union, Chrome Plated	129.13	31.98
23 21 13 23-2879	EA	1-1/2" Union, Chrome Plated	160.95	37.88
23 21 13 23-2880	EA	2" Union, Chrome Plated	210.34	46.13
23 21 13 23-2881		Chrome Plated Caps (23 21 13 23-2833)		
23 21 13 23-2882	EA	1/4" Cap, Chrome Plated	17.02	5.24
23 21 13 23-2883	EA	3/8" Cap, Chrome Plated	17.57	5.57
23 21 13 23-2884	EA	1/2" Cap, Chrome Plated	20.11	5.90
23 21 13 23-2885	EA	3/4" Cap, Chrome Plated	25.05	7.80
23 21 13 23-2886	EA	1" Cap, Chrome Plated	29.71	10.03
23 21 13 23-2887	EA	1-1/4" Cap, Chrome Plated	43.94	13.71
23 21 13 23-2888	EA	1-1/2" Cap, Chrome Plated	58.08	15.93
23 21 13 23-2889	EA	2" Cap, Chrome Plated	85.15	20.84
23 21 13 23-2890		Chrome Plated Plugs (23 21 13 23-2833)		
23 21 13 23-2891	EA	1/4" Plug, Chrome Plated	13.81	5.24
23 21 13 23-2892	EA	3/8" Plug, Chrome Plated	14.36	5.57
23 21 13 23-2893	EA	1/2" Plug, Chrome Plated	16.73	5.90
23 21 13 23-2894	EA	3/4" Plug, Chrome Plated	22.65	7.80
23 21 13 23-2895	EA	1" Plug, Chrome Plated	27.88	10.03
23 21 13 23-2896	EA	1-1/4" Plug, Chrome Plated	37.61	13.71
23 21 13 23-2897	EA	1-1/2" Plug, Chrome Plated	46.51	15.93
23 21 13 23-2898	EA	2" Plug, Chrome Plated	65.02	20.84
23 21 13 23-2899		Chrome Plated Tees (23 21 13 23-2833)		
23 21 13 23-2900	EA	1/4" Chrome Plated Tee	35.50	15.60
23 21 13 23-2901	EA	3/8" Chrome Plated Tee	37.72	17.05
23 21 13 23-2902	EA	1/2" Chrome Plated Tee	42.10	18.60
23 21 13 23-2903	EA	3/4" Chrome Plated Tee	52.44	23.06
23 21 13 23-2904	EA	1" Chrome Plated Tee	74.85	29.75
23 21 13 23-2905	EA	1-1/4" Chrome Plated Tee	103.19	40.89
23 21 13 23-2906	EA	1-1/2" Chrome Plated Tee	132.56	47.58
23 21 13 23-2907	EA	2" Chrome Plated Tee	182.49	58.72
23 21 13 23-2908		Chrome Plated Reducing 90 Degree Elbows (23 21 13 23-2833)		
23 21 13 23-2909	EA	1/2" x 3/8" Reducing 90 Degree Elbow, Chrome Plated	39.95	18.60
23 21 13 23-2910	EA	3/4" x 1/2" Reducing 90 Degree Elbow, Chrome Plated	46.64	23.06
23 21 13 23-2911		Chrome Plated Bell Reducers (23 21 13 23-2833)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 13 23-2912 EA 1/2" x 3/8" Bell Reducer, Chrome Plated	43.83	18.60
23 21 13 23-2913 EA 3/4" x 1/2" Bell Reducer, Chrome Plated	53.32	23.06
23 21 13 23-2914 EA 1" x 1/2" Bell Reducer, Chrome Plated	67.70	29.75
23 21 13 23-2915 Chrome Plated Reducing Tees (23 21 13 23-2833)		
23 21 13 23-2916 EA 3/4" x 1/2" Reducing Tee, Chrome Plated	58.24	23.06
23 21 13 23-2917 Chrome Plated Bushings (23 21 13 23-2833)		
23 21 13 23-2918 EA 3/8" x 1/4" Bushing, Chrome Plated	13.72	5.24
23 21 13 23-2919 EA 1/2" x 1/4" Bushing, Chrome Plated	14.77	5.57
23 21 13 23-2920 EA 1/2" x 3/8" Bushing, Chrome Plated	15.33	5.90
23 21 13 23-2921 EA 3/4" x 1/2" Bushing, Chrome Plated	19.46	7.80
23 21 13 23-2922 EA 1" x 3/4" Bushing, Chrome Plated	28.49	10.03
23 21 13 23-2923 EA 1-1/4" x 1" Bushing, Chrome Plated	41.77	13.71
23 21 16 Hydronic Piping Specialties (23 21)		
23 21 16 00-0001 Air Vents (23 21 16)		
23 21 16 00-0002 Screwed Ends, Cast Iron, Automatic Air Vents (23 21 16 00-0001)		
Note: With guided free floating lever.		
23 21 16 00-0003 EA 1/2" NPT, Cast Iron, Automatic Air Vent	382.13	32.32
23 21 16 00-0004 EA 3/4" NPT, Cast Iron, Automatic Air Vent	466.12	42.91
23 21 16 00-0005 EA 1" NPT, Cast Iron, Automatic Air Vent	1,095.99	44.59
23 21 16 00-0006 EA 1-1/4" NPT, Cast Iron, Automatic Air Vent	1,623.50	68.89
23 21 16 00-0007 EA 1-1/2" NPT, Cast Iron, Automatic Air Vent	2,732.50	74.13
23 21 16 00-0008 EA 2" NPT, Cast Iron, Automatic Air Vent	3,129.65	97.76
23 21 16 00-0009 Forged Steel, Stainless Steel Internals, Automatic Air Vents (23 21 16 00-0001)		
Note: With guided free floating lever.		
23 21 16 00-0010 EA 1/2" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent	2,694.43	37.34
23 21 16 00-0011 EA 3/4" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent	3,379.97	42.91
23 21 16 00-0012 EA 1" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent	4,038.41	44.59
23 21 16 00-0013 EA 1-1/4" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent	6,629.66	69.11
23 21 16 00-0014 EA 1-1/2" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent	7,661.37	74.13
23 21 16 00-0015 EA 2" NPT, Forged Steel, Stainless Steel Internals, Automatic Air Vent	11,272.48	97.53
23 21 16 00-0016 Automatic Air Vent (23 21 16 00-0001)		
23 21 16 00-0017 EA 3/4" NPT, Brass, Automatic Air Eliminator (Spirotherm VJR)	244.22	42.91
23 21 16 00-0018 EA 1" NPT, Brass, Automatic Air Eliminator (Spirotherm VJR)	267.74	44.59
23 21 16 00-0019 EA 1-1/4" NPT, Brass, Automatic Air Eliminator (Spirotherm VJR)	378.30	68.89
23 21 16 00-0020 EA 1-1/2" NPT, Brass, Automatic Air Eliminator (Spirotherm VJR)	469.28	74.13
23 21 16 00-0021 EA 2" NPT, Brass, Automatic Air Eliminator (Spirotherm VJR)	601.22	79.87
23 21 16 00-0022 Manual Air Vent (23 21 16 00-0001)		
23 21 16 00-0023 EA Manual Air Vent	77.24	40.24
23 21 16 00-0024 Air Release Valves (23 21 16 00-0001)		
23 21 16 00-0025 Simple Lever, Cast Iron, Clean Water Air Release Valves (Apco 50) (23 21 16 00-0024)		
Note: Up to 175 psi. Stainless steel float.		
23 21 16 00-0026 EA 1/2" NPT, Simple Lever, Cast Iron, Clean Water Air Release Valves (Apco 50)	196.44	16.72
23 21 16 00-0027 EA 3/4" NPT, Simple Lever, Cast Iron, Clean Water Air Release Valves (Apco 50)	200.90	18.95
23 21 16 00-0028 EA 1" NPT, Simple Lever, Cast Iron, Clean Water Air Release Valves (Apco 50)	209.81	23.41
23 21 16 00-0029 Cast Iron, Compound Lever, Clean Water Air Release Valves (Apco 200) (23 21 16 00-0024)		
Note: Up to 175 psi. Stainless steel float.		
23 21 16 00-0030 EA 1" NPT, Cast Iron, Compound Lever, Clean Water Air Release Valves (Apco 200A)	808.51	23.41
23 21 16 00-0031 EA 2" NPT, Cast Iron, Compound Lever, Clean Water Air Release Valves (Apco 200)	968.81	40.69
23 21 16 00-0032 EA 3" Flanged, Cast Iron, Compound Lever, Clean Water Air Release Valves (Apco 200)	1,269.93	94.86
23 21 16 00-0033 Cast Iron, Air/Vacuum Valves (23 21 16 00-0024)		
Note: Up to 150 psi. Stainless steel float.		
23 21 16 00-0034 EA 1/2" NPT, Cast Iron, Air/Vacuum Valve (Apco 141)	390.49	16.72
23 21 16 00-0035 EA 1" NPT, Cast Iron, Air/Vacuum Valve (Apco 142)	481.48	23.41
23 21 16 00-0036 EA 2" NPT, Cast Iron, Air/Vacuum Valve (Apco 144)	831.69	40.69
23 21 16 00-0037 EA 3" Flanged, Cast Iron, Air/Vacuum Valve (Apco 146)	1,207.83	94.86
23 21 16 00-0038 EA 4" Flanged, Cast Iron, Air/Vacuum Valve (Apco 152)	1,888.56	159.24
23 21 16 00-0039 EA 6" Flanged, Cast Iron, Air/Vacuum Valve (Apco 153)	2,877.80	201.36



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0040		Ductile Iron, Combination Air Release And Vacuum Valves, Single Body Double Orifice (23 21 16 00-0024) Note: Up to 150 psi. Stainless Steel float.		
23 21 16 00-0041	EA	1" NPT, Ductile Iron, Combination Air Release And Vacuum Valves, Single Body Double Orifice (Apco 143C)	698.81	23.41
23 21 16 00-0042	EA	2" NPT, Ductile Iron, Combination Air Release And Vacuum Valves, Single Body Double Orifice (Apco 145C)	1,072.31	40.69
23 21 16 00-0043	EA	3" Flanged, Ductile Iron, Combination Air Release And Vacuum Valves, Single Body Double Orifice (Apco 147C)	1,971.09	94.86
23 21 16 00-0044	EA	4" Flanged, Ductile Iron, Combination Air Release And Vacuum Valves, Single Body Double Orifice (Apco 149C)	2,553.49	159.24
23 21 16 00-0045		Vent Valves (23 21 16)		
23 21 16 00-0046	EA	1/8", 1.5 PSIG Operating Pressure, Non-Vacuum Adjustable Angle Radiator Steam Vent Valve (Hoffman 1A)	80.28	16.72
23 21 16 00-0047	EA	1/2" x 3/4", 35 PSIG Operating Pressure, Straight Steam Unit Heater Air Vent Valve (Hoffman 74)	197.84	17.98
23 21 16 00-0048	EA	1/2" x 3/4", 3 PSIG Operating Pressure, Non-Vacuum Main Steam Air Vent Valve (Hoffman 75)	188.45	17.98
23 21 16 00-0049	EA	1/2" x 3/4", 10 PSIG Operating Pressure, Non Vacuum Straight Non-Vacuum Main Steam Air Vent Valve (Hoffman 75H)	195.02	17.98
23 21 16 00-0050	EA	3/4", 150 PSIG Operating Pressure, Straight Water Main Vent Valve (Hoffman 78)	252.54	17.98
23 21 16 00-0051	EA	1/2" x 3/4", 75 PSIG Operating Pressure, Straight Water Main Vent Valve (Hoffman 79)	185.87	17.98
23 21 16 00-0052		Threaded Inlet, Drip-Pan Elbow (23 21 16)		
23 21 16 00-0053		Cast Iron, Threaded Inlet, Drip-Pan Elbow (23 21 16 00-0052)		
23 21 16 00-0054	EA	2-1/2" Cast Iron, Threaded Inlet, Drip-Pan Elbow	282.50	28.12
		For Flanged Inlet, Add	116.35	
23 21 16 00-0055	EA	3" Cast Iron, Threaded Inlet, Drip-Pan Elbow	318.08	33.33
		For Flanged Inlet, Add	124.90	
23 21 16 00-0056	EA	3-1/2" Cast Iron, Threaded Inlet, Drip-Pan Elbow	403.26	38.54
		For Flanged Inlet, Add	168.50	
23 21 16 00-0057	EA	4" Cast Iron, Threaded Inlet, Drip-Pan Elbow	612.53	43.75
		For Flanged Inlet, Add	296.47	
23 21 16 00-0058	EA	5" Cast Iron, Threaded Inlet, Drip-Pan Elbow	690.28	52.08
		For Flanged Inlet, Add	327.73	
23 21 16 00-0059	EA	6" Cast Iron, Threaded Inlet, Drip-Pan Elbow	964.73	65.62
		For Flanged Inlet, Add	478.94	
23 21 16 00-0060	EA	8" Cast Iron, Threaded Inlet, Drip-Pan Elbow	2,221.39	86.45
		For Flanged Inlet, Add	1,274.46	
23 21 16 00-0061		Cast Steel, Threaded Inlet, Drip-Pan Elbow (23 21 16 00-0052)		
23 21 16 00-0062	EA	2-1/2" Cast Steel, Threaded Inlet, Drip-Pan Elbow	1,254.99	28.12
		For Flanged Inlet, Add	777.64	
23 21 16 00-0063	EA	3" Cast Steel, Threaded Inlet, Drip-Pan Elbow	1,520.12	33.33
		For Flanged Inlet, Add	942.29	
23 21 16 00-0064	EA	3-1/2" Cast Steel, Threaded Inlet, Drip-Pan Elbow	2,220.65	38.54
		For Flanged Inlet, Add	1,404.33	
23 21 16 00-0065	EA	4" Cast Steel, Threaded Inlet, Drip-Pan Elbow	2,241.73	43.75
		For Flanged Inlet, Add	1,404.33	
23 21 16 00-0066	EA	5" Cast Steel, Threaded Inlet, Drip-Pan Elbow	3,289.61	52.08
		For Flanged Inlet, Add	2,095.28	
23 21 16 00-0067	EA	6" Cast Steel, Threaded Inlet, Drip-Pan Elbow	3,341.69	65.62
		For Flanged Inlet, Add	2,095.28	
23 21 16 00-0068	EA	8" Cast Steel, Threaded Inlet, Drip-Pan Elbow	5,638.52	86.45
		For Flanged Inlet, Add	3,598.10	
23 21 16 00-0069		Y-Type Strainers (23 21 16)		
23 21 16 00-0070		Screwed Ends, 250 LB, Iron Body, Y-Type Strainers (23 21 16 00-0069)		
23 21 16 00-0071	EA	1/4" Or 3/8" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer	79.20	12.48
		For Galvanized Body, Add	21.77	
		For Work In Restricted Working Space, Add	10.70	
23 21 16 00-0072	EA	1/2" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer	79.75	12.71
		For Galvanized Body, Add	21.77	
		For Work In Restricted Working Space, Add	10.87	
23 21 16 00-0073	EA	3/4" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer	101.01	17.17
		For Galvanized Body, Add	25.98	
		For Work In Restricted Working Space, Add	14.72	
23 21 16 00-0074	EA	1" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer	128.73	20.51
		For Galvanized Body, Add	35.11	
		For Work In Restricted Working Space, Add	17.56	
23 21 16 00-0075	EA	1-1/4" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer	168.65	25.36
		For Galvanized Body, Add	48.10	
		For Work In Restricted Working Space, Add	21.74	
23 21 16 00-0076	EA	1-1/2" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer	193.88	27.31
		For Galvanized Body, Add	57.93	
		For Work In Restricted Working Space, Add	23.41	
23 21 16 00-0077	EA	2" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer	267.51	31.21
		For Galvanized Body, Add	89.17	
		For Work In Restricted Working Space, Add	26.75	
23 21 16 00-0078	EA	2-1/2" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer	512.39	39.01
		For Galvanized Body, Add	200.46	
		For Work In Restricted Working Space, Add	33.44	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0079	EA	3" Screwed Ends, 250 LB, Iron Body, Y-Type Strainer..... <i>For Galvanized Body, Add</i> <i>For Work In Restricted Working Space, Add</i>	663.13 261.90 41.80	48.82
23 21 16 00-0080		Flanged, 125 LB, Iron Body, Y-Type Strainers (23 21 16 00-0069)		
23 21 16 00-0081	EA	1-1/2" Flanged, 125 LB, Iron Body, Y-Type Strainer..... <i>For Galvanized Body, Add</i> <i>For Work In Restricted Working Space, Add</i>	407.38 130.36 44.00	117.04
23 21 16 00-0082	EA	2" Flanged, 125 LB, Iron Body, Y-Type Strainer..... <i>For Galvanized Body, Add</i> <i>For Work In Restricted Working Space, Add</i>	467.92 141.07 55.73	148.59
23 21 16 00-0083	EA	3" Flanged, 125 LB, Iron Body, Y-Type Strainer..... <i>For Galvanized Body, Add</i> <i>For Work In Restricted Working Space, Add</i>	909.77 336.31 71.15	189.50
23 21 16 00-0084	EA	4" Flanged, 125 LB, Iron Body, Y-Type Strainer..... <i>For Galvanized Body, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,161.37 381.64 119.43	317.68
23 21 16 00-0085	EA	5" Flanged, 125 LB, Iron Body, Y-Type Strainer..... <i>For Galvanized Body, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,253.31 426.97 119.81	319.99
23 21 16 00-0086	EA	6" Flanged, 125 LB, Iron Body, Y-Type Strainer..... <i>For Galvanized Body, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,506.56 530.27 133.81	355.55
23 21 16 00-0087	EA	8" Flanged, 125 LB, Iron Body, Y-Type Strainer..... <i>For Galvanized Body, Add</i> <i>For Work In Restricted Working Space, Add</i>	2,653.09 1,044.37 169.31	454.31
23 21 16 00-0088	EA	10" Flanged, 125 LB, Iron Body, Y-Type Strainer..... <i>For Galvanized Body, Add</i> <i>For Work In Restricted Working Space, Add</i>	5,346.74 2,327.71 207.40	553.07
23 21 16 00-0089	EA	12" Flanged, 125 LB, Iron Body, Y-Type Strainer..... <i>For Galvanized Body, Add</i> <i>For Work In Restricted Working Space, Add</i>	5,828.22 2,420.30 296.29	493.81
23 21 16 00-0090		Screwed Ends, 150 LB, Bronze Body, Y-Type Strainers (23 21 16 00-0069)		
		Note: With screwed cap (4" size has bolted cap).		
23 21 16 00-0091	EA	1/2" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	70.32 57.97 10.87	12.71
23 21 16 00-0092	EA	3/4" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	93.38 75.36 14.72	17.17
23 21 16 00-0093	EA	1" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	114.36 94.93 17.56	20.51
23 21 16 00-0094	EA	1-1/4" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	156.35 142.61 21.74	25.36
23 21 16 00-0095	EA	1-1/2" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	186.99 185.23 23.41	27.31
23 21 16 00-0096	EA	2" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	251.41 275.81 26.75	31.21
23 21 16 00-0097	EA	2-1/2" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	354.88 413.80 33.44	39.01
23 21 16 00-0098	EA	3" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	644.00 857.94 41.80	48.82
23 21 16 00-0099	EA	4" Screwed Ends, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,124.99 1,628.24 50.16	58.52
23 21 16 00-0100		Flanged, 150 LB, Bronze Body, Y-Type Strainers (23 21 16 00-0069)		
		Note: With bolted cap.		
23 21 16 00-0101	EA	2" Flanged, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	609.42 254.18 55.73	148.59
23 21 16 00-0102	EA	2-1/2" Flanged, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	634.28 258.97 60.80	161.63
23 21 16 00-0103	EA	3" Flanged, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	731.41 296.55 71.15	189.50
23 21 16 00-0104	EA	4" Flanged, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	1,599.03 720.56 119.43	317.68
23 21 16 00-0105	EA	6" Flanged, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	2,266.44 1,092.25 133.81	355.55



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0106	EA	8" Flanged, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	3,671.05 1,864.01 169.31	454.31
23 21 16 00-0107	EA	10" Flanged, 150 LB, Bronze Body, Y-Type Strainer..... <i>For 300 LB Rating, Add</i> <i>For Work In Restricted Working Space, Add</i>	11,841.66 6,690.20 207.40	553.07
23 21 16 00-0108		Polyvinyl Chloride (PVC) Body, Y-Type Strainers (23 21 16 00-0069)		
23 21 16 00-0109		Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainers (23 21 16 00-0108)		
23 21 16 00-0110	EA	1/2" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	153.95 10.70	12.26
23 21 16 00-0111	EA	3/4" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	180.10 14.37	16.82
23 21 16 00-0112	EA	1" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	210.02 19.72	22.84
23 21 16 00-0113	EA	1-1/4" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	335.10 21.06	24.51
23 21 16 00-0114	EA	1-1/2" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	338.35 22.73	26.52
23 21 16 00-0115	EA	2" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	396.98 25.74	30.08
23 21 16 00-0116	EA	2-1/2" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	852.10 33.43	39.00
23 21 16 00-0117	EA	3" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	833.66 41.78	48.80
23 21 16 00-0118	EA	4" Threaded Or Socket, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	1,364.64 44.45	51.92
23 21 16 00-0119		Flanged, Polyvinyl Chloride (PVC) Body, Y-Type Strainers (23 21 16 00-0108)		
23 21 16 00-0120	EA	2" Flanged, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	656.20 41.78	69.64
23 21 16 00-0121	EA	2-1/2" Flanged, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	1,310.62 54.48	90.81
23 21 16 00-0122	EA	3" Flanged, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	1,309.51 71.12	189.41
23 21 16 00-0123	EA	4" Flanged, Polyvinyl Chloride (PVC) Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	2,126.17 119.38	317.55
23 21 16 00-0124		Class 125, Crimped Bronze Body, Y-Type Strainers (23 21 16 00-0069) Note: Nibco®		
23 21 16 00-0125	EA	1/2" Class 125, Crimped Bronze Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	177.78 7.52	11.14
23 21 16 00-0126	EA	3/4" Class 125, Crimped Bronze Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	206.04 8.57	12.26
23 21 16 00-0127	EA	1" Class 125, Crimped Bronze Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	294.66 10.24	13.93
23 21 16 00-0128	EA	1-1/4" Class 125, Crimped Bronze Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	396.75 11.28	14.82
23 21 16 00-0129	EA	1-1/2" Class 125, Crimped Bronze Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	478.39 12.53	17.16
23 21 16 00-0130	EA	2" Class 125, Crimped Bronze Body, Y-Type Strainer..... <i>For Work In Restricted Working Space, Add</i>	710.89 15.04	20.27
23 21 16 00-0131		250 PSI, Crimped Bronze Body, Y-Type Strainers (23 21 16 00-0069)		
23 21 16 00-0132	EA	1/2" 250 PSI, Crimped Bronze Body, Y-Type Strainer.....	74.43	11.14
23 21 16 00-0133	EA	3/4" 250 PSI, Crimped Bronze Body, Y-Type Strainer.....	90.78	12.26
23 21 16 00-0134	EA	1" 250 PSI, Crimped Bronze Body, Y-Type Strainer.....	132.83	13.93
23 21 16 00-0135	EA	1-1/4" 250 PSI, Crimped Bronze Body, Y-Type Strainer.....	162.25	14.82
23 21 16 00-0136	EA	1-1/2" 250 PSI, Crimped Bronze Body, Y-Type Strainer.....	193.52	17.16
23 21 16 00-0137	EA	2" 250 PSI, Crimped Bronze Body, Y-Type Strainer.....	254.01	20.27
23 21 16 00-0138		Cast Iron Body, Suction Diffusers (23 21 16) Note: 175 PSI, steel inlet vanes, steel orifice cylinder and 16 mesh bronze startup strainer.		
23 21 16 00-0139	EA	2" x 1-1/2" Screwed Ends, 175 LB, Cast Iron Body, Suction Diffuser..... <i>For Work In Restricted Working Space, Add</i>	535.57 21.50	43.92
23 21 16 00-0140	EA	2" x 2" Screwed Ends, 175 LB, Cast Iron Body, Suction Diffuser..... <i>For Work In Restricted Working Space, Add</i>	562.07 23.89	48.71
23 21 16 00-0141	EA	2-1/2" x 2" Screwed Ends, 175 LB, Cast Iron Body, Suction Diffuser..... <i>For Work In Restricted Working Space, Add</i>	570.72 25.09	51.16
23 21 16 00-0142	EA	2-1/2" x 2-1/2" Flanged, 175 LB, Cast Iron Body, Suction Diffuser..... <i>For Work In Restricted Working Space, Add</i>	1,074.78 60.80	161.63
23 21 16 00-0143	EA	3" x 1-1/2" Screwed Ends, 175 LB, Cast Iron Body, Suction Diffuser..... <i>For Work In Restricted Working Space, Add</i>	588.86 29.14	59.52
23 21 16 00-0144	EA	3" x 2" Screwed Ends, 175 LB, Cast Iron Body, Suction Diffuser..... <i>For Work In Restricted Working Space, Add</i>	667.72 29.14	59.52
23 21 16 00-0145	EA	3" x 2-1/2" Flanged, 175 LB, Cast Iron Body, Suction Diffuser..... <i>For Work In Restricted Working Space, Add</i>	1,124.51 65.97	175.93

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0146	EA	3" x 3" Flanged, 175 LB, Cast Iron Body, Suction Diffuser <i>For Work In Restricted Working Space, Add</i>	1,146.40 71.15	189.50
23 21 16 00-0147	EA	4" x 3" Flanged, 175 LB, Cast Iron Body, Suction Diffuser <i>For Work In Restricted Working Space, Add</i>	1,389.23 95.29	254.10
23 21 16 00-0148	EA	4" x 4" Flanged, 175 LB, Cast Iron Body, Suction Diffuser <i>For Work In Restricted Working Space, Add</i>	1,632.05 119.43	317.68
23 21 16 00-0149	EA	6" x 4" Flanged, 175 LB, Cast Iron Body, Suction Diffuser <i>For Work In Restricted Working Space, Add</i>	1,874.57 119.81	319.50
23 21 16 00-0150	EA	6" x 6" Flanged, 175 LB, Cast Iron Body, Suction Diffuser <i>For Work In Restricted Working Space, Add</i>	2,269.13 133.81	355.55
23 21 16 00-0151	EA	8" x 6" Flanged, 175 LB, Cast Iron Body, Suction Diffuser <i>For Work In Restricted Working Space, Add</i>	2,559.11 169.31	454.31
23 21 16 00-0152	EA	8" x 8" Flanged, 175 LB, Cast Iron Body, Suction Diffuser <i>For Work In Restricted Working Space, Add</i>	3,992.55 169.31	454.31
23 21 16 00-0153	EA	10" x 8" Flanged, 175 LB, Cast Iron Body, Suction Diffuser <i>For Work In Restricted Working Space, Add</i>	4,555.58 207.40	553.07
23 21 16 00-0154	EA	10" x 10" Flanged, 175 LB, Cast Iron Body, Suction Diffuser <i>For Work In Restricted Working Space, Add</i>	5,339.57 207.40	553.07
23 21 16 00-0155		Duplex Strainers (23 21 16)		
23 21 16 00-0156		Iron Body, Duplex Strainers (23 21 16 00-0155)		
23 21 16 00-0157		Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainers (23 21 16 00-0156) Note: With brass or stainless steel basket.		
23 21 16 00-0158	EA	3/4" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	925.16 16.67	27.76
23 21 16 00-0159	EA	1" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	1,032.84 19.08	31.77
23 21 16 00-0160	EA	1-1/4" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	1,401.70 22.39	37.34
23 21 16 00-0161	EA	1-1/2" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	1,766.24 24.41	40.69
23 21 16 00-0162	EA	2" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	2,368.66 29.86	49.60
23 21 16 00-0163	EA	2-1/2" Screwed Ends, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	2,980.45 38.11	63.54
23 21 16 00-0164		Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainers (23 21 16 00-0156) Note: With brass or stainless steel basket.		
23 21 16 00-0165	EA	2" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	3,220.36 55.73	148.59
23 21 16 00-0166	EA	2-1/2" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	3,327.83 60.80	161.63
23 21 16 00-0167	EA	3" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	4,268.17 71.15	189.50
23 21 16 00-0168	EA	4" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	6,693.64 105.82	281.47
23 21 16 00-0169	EA	6" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	13,127.85 133.81	355.55
23 21 16 00-0170	EA	8" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	25,022.18 169.31	454.31
23 21 16 00-0171	EA	10" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	34,569.93 207.40	553.07
23 21 16 00-0172	EA	12" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	39,078.10 418.49	697.27
23 21 16 00-0173	EA	14" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	46,642.22 296.29	790.10
23 21 16 00-0174	EA	16" Flanged, 125 LB, Bronze Diverter, Iron Body, Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	58,335.79 325.92	869.11
23 21 16 00-0175		Bronze Body, Duplex Strainers (23 21 16 00-0155)		
23 21 16 00-0176		Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainers (23 21 16 00-0175) Note: With brass or stainless steel basket.		
23 21 16 00-0177	EA	3/4" Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	1,731.36 16.67	27.87
23 21 16 00-0178	EA	1" Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	1,920.57 19.08	31.77
23 21 16 00-0179	EA	1-1/4" Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	2,814.82 22.39	37.34
23 21 16 00-0180	EA	1-1/2" Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	3,704.75 24.41	40.69
23 21 16 00-0181	EA	2" Screwed Ends, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	4,787.27 29.86	49.60
23 21 16 00-0182	EA	2-1/2" Screwed, 125 LB, Bronze Diverter, Bronze Body Duplex Strainer <i>For Work In Restricted Working Space, Add</i>	5,879.16 38.11	63.54

**Heating, Ventilating, and Air-Conditioning (HVAC)****23**

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0183		Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainers (23 21 16 00-0175) Note: With brass or stainless steel basket.		
23 21 16 00-0184	EA	2" Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainer For Work In Restricted Working Space, Add	6,707.86 55.73	148.59
23 21 16 00-0185	EA	2-1/2" Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainer For Work In Restricted Working Space, Add	6,905.91 60.80	161.63
23 21 16 00-0186	EA	3" Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainer For Work In Restricted Working Space, Add	9,476.78 71.15	189.50
23 21 16 00-0187	EA	4" Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainer For Work In Restricted Working Space, Add	14,936.82 105.82	281.47
23 21 16 00-0188	EA	6" Flanged, 125 LB, Bronze Diverter, Bronze Body, Duplex Strainer For Work In Restricted Working Space, Add	32,512.93 133.81	355.55
23 21 16 00-0189		Cast Steel Body, Duplex Strainers (23 21 16 00-0155)		
23 21 16 00-0190		Screwed Ends, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainers (23 21 16 00-0189) Note: With brass or stainless steel basket.		
23 21 16 00-0191	EA	1" Screwed Ends, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	2,701.20 19.08	31.77
23 21 16 00-0192	EA	1-1/4" Screwed Ends, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	3,327.68 22.39	37.34
23 21 16 00-0193	EA	1-1/2" Screwed Ends, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	3,949.87 24.41	40.69
23 21 16 00-0194	EA	2" Screwed Ends, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	6,693.54 29.86	49.60
23 21 16 00-0195		Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainers (23 21 16 00-0189) Note: With brass or stainless steel basket.		
23 21 16 00-0196	EA	2" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	6,823.76 55.73	148.59
23 21 16 00-0197	EA	2-1/2" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	7,500.04 60.80	161.63
23 21 16 00-0198	EA	3" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	9,864.43 71.15	189.50
23 21 16 00-0199	EA	4" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	14,463.92 105.82	281.47
23 21 16 00-0200	EA	6" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	24,712.01 133.81	355.55
23 21 16 00-0201	EA	8" Flanged, 125 LB, Bronze Diverter, Cast Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	48,217.14 169.31	454.31
23 21 16 00-0202		Stainless Steel Body, Duplex Strainers (23 21 16 00-0155)		
23 21 16 00-0203		Screwed Ends, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainers (23 21 16 00-0202) Note: With stainless steel basket.		
23 21 16 00-0204	EA	1" Screwed Ends, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	6,487.48 19.08	31.77
23 21 16 00-0205	EA	1-1/4" Screwed Ends, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	8,199.66 22.39	37.34
23 21 16 00-0206	EA	1-1/2" Screwed Ends, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	9,895.65 24.41	40.69
23 21 16 00-0207	EA	2" Screwed Ends, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	15,861.84 29.86	49.60
23 21 16 00-0208		Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainers (23 21 16 00-0202) Note: With stainless steel basket.		
23 21 16 00-0209	EA	2" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	16,602.38 55.73	148.59
23 21 16 00-0210	EA	2-1/2" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	17,451.99 60.80	161.63
23 21 16 00-0211	EA	3" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	27,360.24 71.15	189.50
23 21 16 00-0212	EA	4" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	33,423.84 105.82	281.47
23 21 16 00-0213	EA	6" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	58,736.85 133.81	355.55
23 21 16 00-0214	EA	8" Flanged, 125 LB, Stainless Steel Diverter, Stainless Steel Body, Duplex Strainer For Work In Restricted Working Space, Add	108,580.83 169.31	454.31
23 21 16 00-0215		Pressure Regulating Valve (23 21 16)		
23 21 16 00-0216		Screwed Ends, Iron Body, Water Pressure Reducing Valves (23 21 16 00-0215) Note: For building services, 25 - 75 PSI, up to 300 Lbs. rating		
23 21 16 00-0217	EA	1/2" Screwed Ends, Iron Construction, Water Pressure Reducing Valve For Work In Restricted Working Space, Add	225.63 16.71	13.93

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0218	EA	3/4" Screwed Ends, Iron Construction, Water Pressure Reducing Valve <i>For Work In Restricted Working Space, Add</i>	278.47 18.57	15.60
23 21 16 00-0219	EA	1" Screwed Ends, Iron Construction, Water Pressure Reducing Valve <i>For Work In Restricted Working Space, Add</i>	367.48 19.66	16.71
23 21 16 00-0220	EA	1-1/4" Screwed Ends, Iron Construction, Water Pressure Reducing Valve <i>For Work In Restricted Working Space, Add</i>	632.40 22.28	18.72
23 21 16 00-0221	EA	1-1/2" Screwed Ends, Iron Construction, Water Pressure Reducing Valve <i>For Work In Restricted Working Space, Add</i>	859.04 26.74	22.29
23 21 16 00-0222	EA	2" Screwed Ends, Iron Construction, Water Pressure Reducing Valve <i>For Work In Restricted Working Space, Add</i>	1,230.51 41.04	34.17
23 21 16 00-0223	EA	2-1/2" Screwed Ends, Iron Construction, Water Pressure Reducing Valve <i>For Work In Restricted Working Space, Add</i>	1,338.24 46.17	38.47
23 21 16 00-0224	EA	3" Screwed Ends, Iron Construction, Water Pressure Reducing Valve <i>For Work In Restricted Working Space, Add</i>	1,470.34 51.30	111.33
23 21 16 00-0225		Cast Iron Body, Steam Pressure Regulator And Reducer (23 21 16 00-0215) Note: Single seated, spring loaded, direct acting diaphragm valve.		
23 21 16 00-0226		Screwed Ends, Cast Iron Body, Steam Pressure Regulator And Reducer (23 21 16 00-0225)		
23 21 16 00-0227	EA	1/2" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer <i>For Work In Restricted Working Space, Add</i>	380.83 22.44	18.73
23 21 16 00-0228	EA	3/4" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer <i>For Work In Restricted Working Space, Add</i>	476.36 31.85	26.53
23 21 16 00-0229	EA	1" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer <i>For Work In Restricted Working Space, Add</i>	612.60 38.89	32.32
23 21 16 00-0230	EA	1-1/4" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer <i>For Work In Restricted Working Space, Add</i>	820.63 45.19	39.24
23 21 16 00-0231	EA	1-1/2" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer <i>For Work In Restricted Working Space, Add</i>	1,102.91 51.44	44.59
23 21 16 00-0232	EA	2" Screwed Ends, Cast Iron Body, Steam Pressure Regulator Valve And Reducer <i>For Work In Restricted Working Space, Add</i>	1,289.85 62.50	62.49
23 21 16 00-0233		Flanged, Cast Iron Body, Steam Pressure Regulator And Reducer (23 21 16 00-0225) Note: Single seated, spring loaded, direct acting diaphragm valve.		
23 21 16 00-0234	EA	2-1/2" Flanged, Cast Iron Body, Steam Pressure Regulator Valve And Reducer <i>For Work In Restricted Working Space, Add</i>	2,985.12 56.81	151.03
23 21 16 00-0235	EA	3" Flanged, Cast Iron Body, Steam Pressure Regulator Valve And Reducer <i>For Work In Restricted Working Space, Add</i>	3,712.36 66.49	177.07
23 21 16 00-0236	EA	4" Flanged, Cast Iron Body, Steam Pressure Regulator Valve And Reducer <i>For Work In Restricted Working Space, Add</i>	4,771.59 111.60	296.85
23 21 16 00-0237	EA	6" Flanged, Cast Iron Body, Steam Pressure Regulator Valve And Reducer <i>For Work In Restricted Working Space, Add</i>	11,915.34 137.07	364.23
23 21 16 00-0238		Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valves (23 21 16 00-0215)		
23 21 16 00-0239		Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valves (23 21 16 00-0238)		
23 21 16 00-0240	EA	1/2" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve <i>For Work In Restricted Working Space, Add</i>	2,165.98 20.40	13.60
23 21 16 00-0241	EA	3/4" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve <i>For Work In Restricted Working Space, Add</i>	2,211.48 20.40	13.60
23 21 16 00-0242	EA	1" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve <i>For Work In Restricted Working Space, Add</i>	2,355.71 25.75	17.17
23 21 16 00-0243	EA	1-1/4" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve <i>For Work In Restricted Working Space, Add</i>	2,768.37 32.77	21.84
23 21 16 00-0244	EA	1-1/2" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve <i>For Work In Restricted Working Space, Add</i>	3,169.32 37.79	25.19
23 21 16 00-0245	EA	2" Screwed Ends, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve <i>For Work In Restricted Working Space, Add</i>	3,929.71 44.48	29.65
23 21 16 00-0246		Flanged, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valves (23 21 16 00-0238)		
23 21 16 00-0247	EA	2-1/2" Flanged, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve <i>For Work In Restricted Working Space, Add</i>	4,855.52 56.81	151.03
23 21 16 00-0248	EA	3" Flanged, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve <i>For Work In Restricted Working Space, Add</i>	5,989.84 66.49	177.07
23 21 16 00-0249	EA	4" Flanged, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve <i>For Work In Restricted Working Space, Add</i>	9,072.36 111.60	296.85
23 21 16 00-0250	EA	6" Flanged, Cast Iron Body, Externally Piloted, Steam Pressure Regulating And Reducing Valve <i>For Work In Restricted Working Space, Add</i>	19,975.84 137.07	364.23
23 21 16 00-0251		Screwed Ends, Cast Iron Body, Air Pressure Reducing Valves (23 21 16 00-0215)		
23 21 16 00-0252	EA	1/2" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve	253.57	14.48
23 21 16 00-0253	EA	3/4" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve	314.08	16.04
23 21 16 00-0254	EA	1" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve	417.13	17.05
23 21 16 00-0255	EA	1-1/4" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve	724.17	19.39



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0256	EA		1-1/2" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve	985.60	23.17
23 21 16 00-0257	EA		2" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve	1,410.34	35.50
23 21 16 00-0258	EA		2-1/2" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve	1,527.85	38.68
23 21 16 00-0259	EA		3" Screwed Ends, Cast Iron Body, Air Pressure Reducing Valve	1,683.99	44.53
23 21 16 00-0260			Screwed Ends, Bronze Body, Water Pressure Reducing Valves (23 21 16 00-0215) Note: For building services, bronze construction, pressure adjustment, union and strainer, factory set at 45 PSI (Watts 25AUB).		
23 21 16 00-0261	EA		1/2" Screwed Ends, Bronze Body, Water Pressure Reducing Valve	206.61	13.93
23 21 16 00-0262	EA		3/4" Screwed Ends, Bronze Body, Water Pressure Reducing Valve	226.96	15.60
23 21 16 00-0263	EA		1" Screwed Ends, Bronze Body, Water Pressure Reducing Valve	283.71	17.27
23 21 16 00-0264	EA		1-1/4" Screwed Ends, Bronze Body, Water Pressure Reducing Valve	684.46	18.72
23 21 16 00-0265	EA		1-1/2" Screwed Ends, Bronze Body, Water Pressure Reducing Valve	740.57	22.29
23 21 16 00-0266	EA		2" Screwed Ends, Bronze Body, Water Pressure Reducing Valve	1,154.23	34.17
23 21 16 00-0267			Plastic Pressure Regulator (23 21 16 00-0215)		
23 21 16 00-0268			Polyvinyl Chloride (PVC) Pressure Regulator Valves (23 21 16 00-0267)		
23 21 16 00-0269	EA		1/4" Polyvinyl Chloride (PVC) Pressure Regulator Valve	271.31	16.71
23 21 16 00-0270	EA		1/2" Polyvinyl Chloride (PVC) Pressure Regulator Valve	300.22	23.17
23 21 16 00-0271	EA		3/4" Polyvinyl Chloride (PVC) Pressure Regulator Valve	533.44	27.86
23 21 16 00-0272	EA		1" Polyvinyl Chloride (PVC) Pressure Regulator Valve	601.78	37.21
23 21 16 00-0273	EA		1-1/2" Polyvinyl Chloride (PVC) Pressure Regulator Valve	711.15	44.57
23 21 16 00-0274	EA		2" Polyvinyl Chloride (PVC) Pressure Regulator Valve	870.80	69.64
23 21 16 00-0275			Polypropylene Pressure Regulator Valves (23 21 16 00-0267)		
23 21 16 00-0276	EA		1/4" Polypropylene Pressure Regulator Valve	345.95	16.71
23 21 16 00-0277	EA		1/2" Polypropylene Pressure Regulator Valve	424.63	23.40
23 21 16 00-0278	EA		3/4" Polypropylene Pressure Regulator Valve	651.88	27.86
23 21 16 00-0279	EA		1" Polypropylene Pressure Regulator Valve	770.98	37.21
23 21 16 00-0280	EA		1-1/2" Polypropylene Pressure Regulator Valve	900.25	44.57
23 21 16 00-0281	EA		2" Polypropylene Pressure Regulator Valve	1,113.65	69.64
23 21 16 00-0282			Teflon (PTFE) Pressure Regulator Valves (23 21 16 00-0267)		
23 21 16 00-0283	EA		1/4" Teflon (PTFE) Pressure Regulator Valve	739.09	16.71
23 21 16 00-0284	EA		1/2" Teflon (PTFE) Pressure Regulator Valve	847.62	23.17
23 21 16 00-0285	EA		3/4" Teflon Pressure Regulator Valve	1,429.20	27.86
23 21 16 00-0286	EA		1" Teflon (PTFE) Pressure Regulator Valve	1,975.26	37.21
23 21 16 00-0287	EA		1-1/2" Teflon (PTFE) Pressure Regulator Valve	2,383.22	44.57
23 21 16 00-0288	EA		2" Teflon (PTFE) Pressure Regulator Valve	3,334.12	69.64
23 21 16 00-0289			Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valves (23 21 16 00-0267)		
23 21 16 00-0290	EA		1/4" Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valve	242.05	16.71
23 21 16 00-0291	EA		1/2" Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valve	277.47	23.17
23 21 16 00-0292	EA		3/4" Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valve	446.64	27.86
23 21 16 00-0293	EA		1" Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valve	530.52	37.10
23 21 16 00-0294	EA		1-1/2" Polyvinyl Chloride (PVC), Viton Seals, Pressure Regulator Valve	617.48	44.57
23 21 16 00-0295			Dual Unit Reducing And Relief Valve (23 21 16)		
23 21 16 00-0296	EA		1/2" Dual Unit Reducing And Relief Valve	232.49	34.00
23 21 16 00-0297			Safety Relief Valve (23 21 16) Note: Used in water heater and hot water storage tank applications.		
23 21 16 00-0298			Threaded Inlet, Bronze Body Safety Valves (23 21 16 00-0297) Note: Variable set points to 150 psig pressure, 210 Degree F temperature range.		
23 21 16 00-0299	EA		1/2" x 1/2" Threaded Inlet, Bronze Body Safety Valve	81.83	13.93
23 21 16 00-0300	EA		3/4" x 3/4" Threaded Inlet, Bronze Body Safety Valve	116.28	15.32
23 21 16 00-0301	EA		1" x 1" Threaded Inlet, Bronze Body Safety Valve	170.51	18.66
23 21 16 00-0302	EA		1-1/4" x 1-1/4" Threaded Inlet, Bronze Body Safety Valve	223.67	19.78
23 21 16 00-0303	EA		1-1/2" x 1-1/2" Threaded Inlet, Bronze Body Safety Valve	308.56	26.46
23 21 16 00-0304	EA		2" x 2" Threaded Inlet, Bronze Body Safety Valve	417.07	31.20
23 21 16 00-0305	EA		2-1/2" x 2-1/2" Threaded Inlet, Bronze Body Safety Valve	470.27	39.00
23 21 16 00-0306			Plastic Pressure Relief Valves (23 21 16 00-0297)		
23 21 16 00-0307			Polyvinyl Chloride (PVC) Pressure Relief Valves (23 21 16 00-0306)		
23 21 16 00-0308	EA		1/4" Polyvinyl Chloride (PVC) Pressure Relief Valve	223.20	16.71
23 21 16 00-0309	EA		1/2" Polyvinyl Chloride (PVC) Pressure Relief Valve	245.48	23.40
23 21 16 00-0310	EA		3/4" Polyvinyl Chloride (PVC) Pressure Relief Valve	462.12	27.86
23 21 16 00-0311	EA		1" Polyvinyl Chloride (PVC) Pressure Relief Valve	547.04	37.33
23 21 16 00-0312	EA		1-1/2" Polyvinyl Chloride (PVC) Pressure Relief Valve	711.15	44.57
23 21 16 00-0313	EA		2" Polyvinyl Chloride (PVC) Pressure Relief Valve	885.73	69.64

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0314 Polypropylene Pressure Relief Valves (23 21 16 00-0306)				
23 21 16 00-0315	EA	1/4" Polypropylene Pressure Relief Valve	256.38	16.71
23 21 16 00-0316	EA	1/2" Polypropylene Pressure Relief Valve	295.24	23.17
23 21 16 00-0317	EA	3/4" Polypropylene Pressure Relief Valve	578.23	27.86
23 21 16 00-0318	EA	1" Polypropylene Pressure Relief Valve	671.45	37.21
23 21 16 00-0319	EA	1-1/2" Polypropylene Pressure Relief Valve	1,183.91	44.57
23 21 16 00-0320	EA	2" Polypropylene Pressure Relief Valve	1,449.72	69.64
23 21 16 00-0321 Teflon (PTFE) Pressure Relief Valves (23 21 16 00-0306)				
23 21 16 00-0322	EA	1/4" Teflon (PTFE) Pressure Relief Valve	455.43	16.71
23 21 16 00-0323	EA	1/2" Teflon (PTFE) Pressure Relief Valve	502.59	23.17
23 21 16 00-0324	EA	3/4" Teflon (PTFE) Pressure Relief Valve	951.46	27.86
23 21 16 00-0325	EA	1" Teflon (PTFE) Pressure Relief Valve	1,119.32	37.21
23 21 16 00-0326	EA	1-1/2" Teflon (PTFE) Pressure Relief Valve	1,830.84	44.57
23 21 16 00-0327	EA	2" Teflon (PTFE) Pressure Relief Valve	2,362.06	69.64
23 21 16 00-0328 Polyvinyl Chloride (PVC), Vitron Seals, Pressure Relief Valves (23 21 16 00-0306)				
23 21 16 00-0329	EA	1/2" Polyvinyl Chloride (PVC), Vitron Seals, Pressure Relief Valve	231.64	23.17
23 21 16 00-0330	EA	3/4" Polyvinyl Chloride (PVC), Vitron Seals, Pressure Relief Valve	264.34	27.86
23 21 16 00-0331	EA	1" Polyvinyl Chloride (PVC), Vitron Seals, Pressure Relief Valve	321.91	37.10
23 21 16 00-0332	EA	1-1/2" Polyvinyl Chloride (PVC), Vitron Seals, Pressure Relief Valve	412.77	44.57
23 21 16 00-0333	EA	2" Polyvinyl Chloride (PVC), Vitron Seals, Pressure Relief Valve	522.40	69.64
23 21 16 00-0334 Threaded, Bronze Body, Temperature And Pressure Relief Valves (23 21 16)				
23 21 16 00-0335	EA	1/2" x 1/2" Threaded, Bronze Body, Temperature And Pressure Relief Valve	94.77	28.41
		<i>For Cast Iron Body, Add</i>	60.44	
23 21 16 00-0336	EA	3/4" x 3/4" Threaded, Bronze Body, Temperature And Pressure Relief Valve	123.06	34.09
		<i>For Cast Iron Body, Add</i>	84.19	
23 21 16 00-0337	EA	1" x 1" Threaded, Bronze Body, Temperature And Pressure Relief Valve	181.55	45.46
		<i>For Cast Iron Body, Add</i>	134.09	
23 21 16 00-0338	EA	1-1/4" x 1-1/4" Threaded, Bronze Body, Temperature And Pressure Relief Valve	307.57	48.69
		<i>For Cast Iron Body, Add</i>	284.98	
23 21 16 00-0339	EA	1-1/2" x 1-1/2" Threaded, Bronze Body, Temperature And Pressure Relief Valve	525.21	54.60
		<i>For Cast Iron Body, Add</i>	545.14	
23 21 16 00-0340	EA	2" x 2" Threaded, Bronze Body, Temperature And Pressure Relief Valve	603.14	78.50
		<i>For Cast Iron Body, Add</i>	593.60	
23 21 16 00-0341 Thermostatic Radiator Valves (23 21 16)				
		Note: For hot water or two pipe low pressure steam.		
23 21 16 00-0342	EA	1/2" Straight Thermostatic Radiator Valve (Danfoss 013G8015)	83.76	17.98
23 21 16 00-0343	EA	3/4" Straight Thermostatic Radiator Valve (Danfoss 013G8020)	102.12	24.23
23 21 16 00-0344	EA	1" Straight Thermostatic Radiator Valve (Danfoss 013G8025)	135.73	29.34
23 21 16 00-0345	EA	1-1/4" Straight Thermostatic Radiator Valve (Danfoss 013G8032)	209.91	37.16
23 21 16 00-0346	EA	1/2" Angle Thermostatic Radiator Valve (Danfoss 013G8014)	83.76	17.98
23 21 16 00-0347	EA	3/4" Angle Thermostatic Radiator Valve (Danfoss 013G8019)	102.12	24.23
23 21 16 00-0348	EA	1" Angle Thermostatic Radiator Valve (Danfoss 013G8024)	135.73	29.34
23 21 16 00-0349	EA	1-1/4" Angle Thermostatic Radiator Valve (Danfoss 013G8031)	209.91	37.16
23 21 16 00-0350	EA	Tamper Resistant Valve Mounted Dial And Sensor Thermostatic Operator (Danfoss 013G8240)	85.23	13.93
23 21 16 00-0351	EA	Tamper Resistant Valve Mounted Dial With Remote Sensor Thermostatic Operator (Danfoss 013G2922)	143.07	19.51
23 21 16 00-0352 Radiator Trap Repair Kits (23 21 16)				
		Note: For hot water or two pipe low pressure steam.		
23 21 16 00-0353	EA	1/2" Trap (Spirax-Sarco TH-125), Straight, Radiator Trap Repair Kit (Spirax-Sarco SH1031)	150.07	
23 21 16 00-0354	EA	3/4" Trap (Spirax-Sarco TH-125), Straight, Radiator Trap Repair Kit (Spirax-Sarco SH1032)	187.62	
23 21 16 00-0355	EA	1/2" Trap (Spirax-Sarco TH-125), Angle, Radiator Trap Repair Kit (Spirax-Sarco SH1026)	190.78	
23 21 16 00-0356	EA	3/4" Trap (Spirax-Sarco TH-125), Angle, Radiator Trap Repair Kit (Spirax-Sarco SH1027)	216.72	
23 21 16 00-0357	EA	1" Trap (Spirax-Sarco TH-125), Angle, Radiator Trap Repair Kit (Spirax-Sarco SH1028)	516.11	
23 21 16 00-0358 Horizontal Steel Expansion Tanks (23 21 16)				
		Note: ASME Code Stamp. 150 PSI with glass gauge and cocks.		
23 21 16 00-0359	EA	10 Gallon Horizontal Steel Expansion Tank	828.40	111.47
23 21 16 00-0360	EA	15 Gallon Horizontal Steel Expansion Tank	1,186.87	139.33
23 21 16 00-0361	EA	30 Gallon Horizontal Steel Expansion Tank	1,568.09	167.20
23 21 16 00-0362	EA	40 Gallon Horizontal Steel Expansion Tank	1,802.88	195.07
23 21 16 00-0363	EA	60 Gallon Horizontal Steel Expansion Tank	2,096.01	197.52
23 21 16 00-0364 Horizontal Diaphragm Type (Bladder) Steel Expansion Tanks (23 21 16)				
		Note: ASME. Precharged with working pressure 125 psi. Armstrong AX Series.		
23 21 16 00-0365	EA	7.8 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	1,583.78	83.60
23 21 16 00-0366	EA	10.9 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	1,652.81	97.53
23 21 16 00-0367	EA	21.7 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	2,467.66	111.47
23 21 16 00-0368	EA	33.6 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	2,568.18	125.39



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0369	EA	44.4 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	3,484.74	139.33
23 21 16 00-0370	EA	55.7 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	3,674.84	153.26
23 21 16 00-0371	EA	68.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	4,371.04	167.20
23 21 16 00-0372	EA	77.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	4,677.38	181.13
23 21 16 00-0373	EA	90.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	5,155.64	195.07
23 21 16 00-0374	EA	110.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	5,298.55	222.93
23 21 16 00-0375	EA	132.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	6,649.78	250.80
23 21 16 00-0376	EA	158.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	7,625.68	278.67
23 21 16 00-0377	EA	211.0 Gallon Horizontal Diaphragm Type (Bladder) Steel Expansion Tank	8,851.04	334.40
23 21 16 00-0378 Vertical Diaphragm Type (Bladder) Steel Expansion Tanks (Armstrong AX)				
(23 21 16) Note: ASME. Precharged with working pressure 125 psi				
23 21 16 00-0379	EA	8.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	1,806.56	83.60
23 21 16 00-0380	EA	11.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	1,863.48	97.53
23 21 16 00-0381	EA	22.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	2,671.07	111.47
23 21 16 00-0382	EA	34.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	2,851.49	125.39
23 21 16 00-0383	EA	44.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	3,627.60	139.33
23 21 16 00-0384	EA	56.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	3,815.28	153.26
23 21 16 00-0385	EA	67.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	4,654.36	167.20
23 21 16 00-0386	EA	77.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	5,030.92	181.13
23 21 16 00-0387	EA	91.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	5,564.88	195.07
23 21 16 00-0388	EA	111.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	5,700.52	222.93
23 21 16 00-0389	EA	132.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	7,015.43	250.80
23 21 16 00-0390	EA	158.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	8,141.46	278.67
23 21 16 00-0391	EA	211.0 Gallon Vertical Diaphragm Type (Bladder) Steel Expansion Tank.....	9,376.50	334.40
23 21 16 00-0392 Diaphragm Type (Residential Style) Steel Expansion Tanks (23 21 16)				
23 21 16 00-0393	EA	2.1 Gallon Diaphragm Type (Residential Style) Steel Expansion Tank (Watts DET-5-M1)	102.66	10.26
23 21 16 00-0394	EA	4.5 Gallon Diaphragm Type (Residential Style) Steel Expansion Tank (Watts DET-12-M1)	147.95	10.26
23 21 16 00-0395 Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tanks (23 21 16)				
23 21 16 00-0396	EA	15 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	1,189.16	334.51
23 21 16 00-0397	EA	20 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	1,242.07	334.51
23 21 16 00-0398	EA	30 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	1,294.98	334.51
23 21 16 00-0399	EA	40 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	1,432.52	334.51
23 21 16 00-0400	EA	47 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	1,702.66	445.75
23 21 16 00-0401	EA	60 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	2,019.34	445.98
23 21 16 00-0402	EA	80 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	2,082.18	445.98
23 21 16 00-0403	EA	87 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	2,145.03	445.98
23 21 16 00-0404	EA	120 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	2,731.38	557.32
23 21 16 00-0405	EA	187 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	8,059.55	557.32
23 21 16 00-0406	EA	264 Gallon Vertical Diaphragm Type (Bladder) Fiberglass Reinforced Polyester (FRP) Expansion Tank.....	10,258.71	668.57
23 21 16 00-0407 ASME Construction Compression Tanks (23 21 16)				
Note: With gauge glass taps, 125 PSI, 240 degree F tanks below are sized by capacity and diameter and height.				
23 21 16 00-0408	EA	15 Gallon, 13" x 34-1/2" ASME Construction Compression Tank.....	1,164.28	196.18
<i>For Galvanized Steel Tanks, Add</i>			433.52	
23 21 16 00-0409	EA	24 Gallon, 13" x 51" ASME Construction Compression Tank.....	1,186.34	201.75
<i>For Galvanized Steel Tanks, Add</i>			439.91	
23 21 16 00-0410	EA	30 Gallon, 13" x 61-1/2" ASME Construction Compression Tank.....	1,298.38	208.44
<i>For Galvanized Steel Tanks, Add</i>			490.91	
23 21 16 00-0411	EA	40 Gallon, 16-1/4" x 53" ASME Construction Compression Tank.....	1,425.37	216.25
<i>For Galvanized Steel Tanks, Add</i>			548.28	
23 21 16 00-0412	EA	60 Gallon, 16-1/4" x 76-1/2" ASME Construction Compression Tank.....	1,671.60	228.50
<i>For Galvanized Steel Tanks, Add</i>			663.03	
23 21 16 00-0413	EA	80 Gallon, 20-1/4" x 68" ASME Construction Compression Tank.....	1,736.64	237.42
<i>For Galvanized Steel Tanks, Add</i>			688.54	
23 21 16 00-0414	EA	100 Gallon, 20-1/4" x 82" ASME Construction Compression Tank.....	2,163.46	258.60
<i>For Galvanized Steel Tanks, Add</i>			886.18	
23 21 16 00-0415	EA	120 Gallon, 24-1/4" x 71-1/2" ASME Construction Compression Tank.....	2,358.71	277.55
<i>For Galvanized Steel Tanks, Add</i>			969.04	
23 21 16 00-0416	EA	144 Gallon, 24-1/4" x 83-1/2" ASME Construction Compression Tank.....	2,946.83	313.22
<i>For Galvanized Steel Tanks, Add</i>			1,236.26	
23 21 16 00-0417	EA	180 Gallon, 30" x 60" ASME Construction Compression Tank.....	3,756.89	358.92
<i>For Galvanized Steel Tanks, Add</i>			1,606.58	
23 21 16 00-0418	EA	202 Gallon, 30" x 72" ASME Construction Compression Tank.....	4,512.17	397.93
<i>For Galvanized Steel Tanks, Add</i>			1,954.83	
23 21 16 00-0419	EA	230 Gallon, 30" x 84" ASME Construction Compression Tank.....	4,935.11	432.48
<i>For Galvanized Steel Tanks, Add</i>			2,139.72	
23 21 16 00-0420	EA	280 Gallon, 30" x 96" ASME Construction Compression Tank.....	6,260.87	474.84
<i>For Galvanized Steel Tanks, Add</i>			2,770.87	
23 21 16 00-0421	EA	306 Gallon, 30" x 108" ASME Construction Compression Tank.....	6,452.96	507.17
<i>For Galvanized Steel Tanks, Add</i>			2,842.12	
23 21 16 00-0422	EA	340 Gallon, 36" x 84" ASME Construction Compression Tank.....	8,355.67	545.06
<i>For Galvanized Steel Tanks, Add</i>			3,765.00	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0423	EA	550 Gallon, 36" x 96" ASME Construction Compression Tank <i>For Galvanized Steel Tanks, Add</i>	14,015.40 6,523.07	639.81
23 21 16 00-0424		Compression Tank Air Fittings (23 21 16)		
23 21 16 00-0425	EA	9" To 24" Diameter Compression Tank Air Fittings	432.24	31.21
23 21 16 00-0426	EA	>100 Gallon Compression Tank Air Fittings	1,515.50	36.79
23 21 16 00-0427		Vortex Air Separators With Strainer (23 21 16)		
Note: Separators are priced by capacity in gallons per minute and by boiler connection sizes and types.				
23 21 16 00-0428	EA	2" Threaded, 56 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-2N)	1,852.40	237.42
		<i>For 300 PSIG, Add</i>	223.92	
23 21 16 00-0429	EA	2-1/2" Threaded, 90 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-2-1/2N)	2,303.17	271.98
		<i>For 300 PSIG, Add</i>	283.55	
23 21 16 00-0430	EA	3" Threaded, 190 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-3N)	3,593.96	319.91
		<i>For 300 PSIG, Add</i>	466.40	
23 21 16 00-0431	EA	3" Flanged, 190 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-3F)	3,843.47	338.79
		<i>For 300 PSIG, Add</i>	499.52	
23 21 16 00-0432	EA	4" Flanged, 300 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-4F)	4,950.91	451.72
		<i>For 300 PSIG, Add</i>	639.97	
23 21 16 00-0433	EA	5" Flanged, 500 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-5F)	6,263.50	537.27
		<i>For 300 PSIG, Add</i>	817.52	
23 21 16 00-0434	EA	6" Flanged, 700 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-6F)	7,449.60	608.37
		<i>For 300 PSIG, Add</i>	979.17	
23 21 16 00-0435	EA	8" Flanged, 1,300 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-8F)	10,805.13	729.86
		<i>For 300 PSIG, Add</i>	1,454.85	
23 21 16 00-0436	EA	10" Flanged, 2,000 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-10F)	16,821.29	829.61
		<i>For 300 PSIG, Add</i>	2,334.65	
23 21 16 00-0437	EA	12" Flanged, 2,750 GPM, 125 PSI, With Strainer, Vortex Air Separator (Rolairtrol R-12F)	22,719.55	1,073.55
		<i>For 300 PSIG, Add</i>	3,163.93	
23 21 16 00-0438	EA	14" Flanged, 3400 GPM With Strainer, Vortex Air Separator (Rolairtrol R-14F)	47,930.30	1,303.66
		<i>For 300 PSIG, Add</i>	6,893.26	
23 21 16 00-0439	EA	16" Flanged, 4400 GPM With Strainer, Vortex Air Separator (Rolairtrol R-16F)	59,200.75	1,564.40
		<i>For 300 PSIG, Add</i>	8,524.57	
23 21 16 00-0440	EA	18" Flanged, 5200 GPM With Strainer, Vortex Air Separator (Rolairtrol R-18F)	77,381.00	1,825.13
		<i>For 300 PSIG, Add</i>	11,192.35	
23 21 16 00-0441	EA	20" Flanged, 6300 GPM With Strainer, Vortex Air Separator (Rolairtrol R-20F)	90,570.62	2,085.87
		<i>For 300 PSIG, Add</i>	13,111.53	
23 21 16 00-0442		Vortex Air Separators (23 21 16)		
Note: Without system strainer.				
23 21 16 00-0443	EA	2" Threaded, 56 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-2N)	1,560.90	237.42
		<i>For 300 PSIG, Add</i>	180.20	
23 21 16 00-0444	EA	2-1/2" Threaded, 90 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-2-1/2N)	1,985.17	271.98
		<i>For 300 PSIG, Add</i>	235.85	
23 21 16 00-0445	EA	3" Threaded, 190 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-3N)	3,514.46	319.91
		<i>For 300 PSIG, Add</i>	454.47	
23 21 16 00-0446	EA	3" Flanged, 190 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-3F)	3,145.64	338.79
		<i>For 300 PSIG, Add</i>	394.85	
23 21 16 00-0447	EA	4" Flanged, 300 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-4F)	4,217.75	451.72
		<i>For 300 PSIG, Add</i>	530.00	
23 21 16 00-0448	EA	5" Flanged, 530 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-5F)	5,495.00	537.27
		<i>For 300 PSIG, Add</i>	702.25	
23 21 16 00-0449	EA	6" Flanged, 850 GPM, 125 PSI, Vortex Air Separator (Rolairtrol RL-6F)	6,407.27	608.37
		<i>For 300 PSIG, Add</i>	822.82	
23 21 16 00-0450	EA	8" Flanged, 1,900 GPM Vortex Air Separator (Rolairtrol RL-8F)	8,579.13	729.86
		<i>For 300 PSIG, Add</i>	1,120.95	
23 21 16 00-0451	EA	10" Flanged, 3,600 GPM Vortex Air Separator (Rolairtrol RL-10F)	12,060.13	829.61
		<i>For 300 PSIG, Add</i>	1,620.47	
23 21 16 00-0452	EA	12" Flanged, 4,800 GPM Vortex Air Separator (Rolairtrol RL-12F)	18,719.15	1,073.55
		<i>For 300 PSIG, Add</i>	2,563.87	
23 21 16 00-0453	EA	14" Flanged, 6,100 GPM Vortex Air Separator (Rolairtrol RL-14F)	32,209.69	1,303.66
		<i>For 300 PSIG, Add</i>	4,535.17	
23 21 16 00-0454	EA	16" Flanged, 8,000 GPM Vortex Air Separator (Rolairtrol RL-16F)	40,863.07	1,564.40
		<i>For 300 PSIG, Add</i>	5,773.91	
23 21 16 00-0455	EA	18" Flanged, 9,700 GPM Vortex Air Separator (Rolairtrol RL-18F)	54,808.75	1,825.13
		<i>For 300 PSIG, Add</i>	7,806.51	
23 21 16 00-0456	EA	20" Flanged, 12,000 GPM Vortex Air Separator (Rolairtrol RL-20F)	75,220.76	2,085.87
		<i>For 300 PSIG, Add</i>	10,809.05	
23 21 16 00-0457	EA	22" Flanged, 15,000 GPM Vortex Air Separator (Rolairtrol RL-22F)	92,250.57	2,346.60
		<i>For 300 PSIG, Add</i>	13,304.27	
23 21 16 00-0458	EA	24" Flanged, 17,000 GPM Vortex Air Separator (Rolairtrol RL-24F)	109,280.39	2,607.33
		<i>For 300 PSIG, Add</i>	15,799.48	
23 21 16 00-0459		Grooved, With Strainer, Vortex Air Separators (23 21 16)		
23 21 16 00-0460	EA	3" Grooved, 190 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-3G)	3,387.49	271.03
23 21 16 00-0461	EA	4" Grooved, 300 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-4G)	4,813.68	361.15
23 21 16 00-0462	EA	5" Grooved, 500 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-5G)	6,100.81	429.41
23 21 16 00-0463	EA	6" Grooved, 700 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-6G)	7,265.18	486.71
23 21 16 00-0464	EA	8" Grooved, 1,300 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-8G)	10,566.23	584.05



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0465	EA		10" Grooved, 2,000 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-10G)	17,258.87	663.69
23 21 16 00-0466	EA		12" Grooved, 2,750 GPM, With Strainer, Vortex Air Separator (Rolairtrol R-12G)	26,374.38	858.94
23 21 16 00-0467			Grooved Vortex Air Separators (23 21 16)		
			Note: Without system strainer.		
23 21 16 00-0468	EA		3" Grooved, 190 GPM Vortex Air Separator (Rolairtrol RL-3G)	2,663.16	271.03
23 21 16 00-0469	EA		4" Grooved, 300 GPM Vortex Air Separator (Rolairtrol RL-4G)	4,080.52	361.15
23 21 16 00-0470	EA		5" Grooved, 530 GPM Vortex Air Separator (Rolairtrol RL-5G)	5,332.31	429.41
23 21 16 00-0471	EA		6" Grooved, 850 GPM Vortex Air Separator (Rolairtrol RL-6G)	6,222.85	486.71
23 21 16 00-0472	EA		8" Grooved, 1,900 GPM Vortex Air Separator (Rolairtrol RL-8G)	8,357.90	584.05
23 21 16 00-0473	EA		10" Grooved, 3,600 GPM Vortex Air Separator (Rolairtrol RL-10G)	12,427.04	663.69
23 21 16 00-0474	EA		12" Grooved, 4,800 GPM Vortex Air Separator (Rolairtrol RL-12G)	20,802.19	858.94
23 21 16 00-0475			Removable Head, Air Eliminator And Dirt Separator (23 21 16)		
			Note: Spirovent VDN.		
23 21 16 00-0476	EA		2", 45 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN)	3,606.56	237.42
23 21 16 00-0477	EA		2-1/2", 70 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN)	3,906.09	271.98
23 21 16 00-0478	EA		3", 95 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN)	5,213.09	319.91
23 21 16 00-0479	EA		4", 170 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN)	5,965.38	490.45
23 21 16 00-0480	EA		5", 260 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN)	8,708.38	606.37
23 21 16 00-0481	EA		6", 375 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN)	11,202.16	686.63
23 21 16 00-0482	EA		8", 625 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN)	17,479.45	154.94
23 21 16 00-0483	EA		10", 950 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN)	25,793.22	936.31
23 21 16 00-0484	EA		12", 1,400 GPM, Removable Head, Air Eliminator And Dirt Separator (Spirotherm VDN)	33,337.67	1,211.63
23 21 16 00-0485			Swivel Joints (23 21 16)		
23 21 16 00-0486			Carbon Steel, Straight Through Swivel Joint (Dixon Style 20) (23 21 16 00-0485)		
			Note: Includes BUNA-N Seat. For oil, gasoline, water, air, gas, and chemicals.		
23 21 16 00-0487	EA		1" Threaded, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20)	357.16	29.31
23 21 16 00-0488	EA		1-1/2" Threaded, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20)	513.14	42.91
23 21 16 00-0489	EA		2" Threaded, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20)	720.37	50.16
23 21 16 00-0490	EA		3" Threaded, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20)	1,073.41	85.83
23 21 16 00-0491	EA		4" Threaded, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20)	1,362.10	97.53
			For Stainless Steel, Add	1,750.55	
23 21 16 00-0492	EA		2" Flanged, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20)	1,001.39	148.59
			For Stainless Steel, Add	1,223.42	
23 21 16 00-0493	EA		3" Flanged, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20)	1,353.94	118.54
23 21 16 00-0494	EA		4" Flanged, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20)	1,718.91	317.68
23 21 16 00-0495	EA		6" Flanged, Carbon Steel, Straight Through Swivel Joint (Dixon Style 20)	3,202.41	401.28
23 21 16 00-0496			Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30) (23 21 16 00-0485)		
			Note: Includes BUNA-N Seat. For oil, gasoline, water, air, gas, and chemicals.		
23 21 16 00-0497	EA		1" Threaded, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30)	455.34	29.31
			For Stainless Steel, Add	595.02	
23 21 16 00-0498	EA		1-1/2" Threaded, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30)	559.51	42.91
			For Stainless Steel, Add	710.64	
23 21 16 00-0499	EA		2" Threaded, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30)	754.77	50.16
			For Stainless Steel, Add	980.16	
23 21 16 00-0500	EA		3" Threaded, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30)	1,212.53	85.83
			For Stainless Steel, Add	1,561.58	
23 21 16 00-0501	EA		4" Threaded, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30)	1,589.32	97.53
			For Stainless Steel, Add	2,091.38	
23 21 16 00-0502	EA		2" Flanged, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30)	1,032.83	148.59
			For Stainless Steel, Add	1,270.58	
23 21 16 00-0503	EA		3" Flanged, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30)	1,534.03	118.54
			For Stainless Steel, Add	1,945.31	
23 21 16 00-0504	EA		4" Flanged, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30)	1,926.81	317.68
			For Stainless Steel, Add	2,293.08	
23 21 16 00-0505	EA		6" Flanged, Carbon Steel, Single Swivel/Single Elbow Swivel Joint (Dixon Style 30)	3,345.98	401.28
			For Stainless Steel, Add	4,263.89	
23 21 16 00-0506			Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40) (23 21 16 00-0485)		
			Note: Includes BUNA-N Seat. For oil, gasoline, water, air, gas, and chemicals.		
23 21 16 00-0507	EA		1" Threaded, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40)	536.36	29.31
			For Stainless Steel, Add	716.55	
23 21 16 00-0508	EA		1-1/2" Threaded, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40)	621.34	42.91
			For Stainless Steel, Add	803.39	
23 21 16 00-0509	EA		2" Threaded, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40)	910.18	50.16
			For Stainless Steel, Add	1,213.28	
23 21 16 00-0510	EA		3" Threaded, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40)	1,399.56	85.83
			For Stainless Steel, Add	1,842.12	
23 21 16 00-0511	EA		4" Threaded, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40)	1,651.15	97.53
			For Stainless Steel, Add	2,184.12	
23 21 16 00-0512	EA		2" Flanged, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40)	1,187.41	148.59
			For Stainless Steel, Add	1,502.45	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0513	EA		3" Flanged, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40)	1,725.69	118.54
			<i>For Stainless Steel, Add</i>	2,232.80	
23 21 16 00-0514	EA		4" Flanged, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40)	2,124.66	317.68
			<i>For Stainless Steel, Add</i>	2,589.86	
23 21 16 00-0515	EA		6" Flanged, Carbon Steel, Single Swivel/Double Elbow Swivel Joint (Dixon Style 40)	3,771.05	401.28
			<i>For Stainless Steel, Add</i>	4,901.49	
23 21 16 00-0516 Ball Joints (23 21 16)					
23 21 16 00-0517	EA		1" Steel Threaded Ball Joint (Hyspan BB-33004-16-11)	1,164.61	
23 21 16 00-0518	EA		2" Steel Threaded Ball Joint (Hyspan BB-33001-32-11)	1,697.01	
23 21 16 00-0519	EA		3" Steel Threaded Ball Joint (Hyspan BB-41533-48-21)	2,919.76	
23 21 16 00-0520	EA		8" Steel Welding Type Ball Joint (Hyspan BB-41533-68-21)	9,222.42	
23 21 16 00-0521	EA		10" Steel Welding Type Ball Joint (Hyspan BB-41533-70-21)	10,762.02	
23 21 16 00-0522	EA		3" Steel Flanged Ball Joint (Hyspan BB-41533-48-21)	2,731.12	174.43
23 21 16 00-0523	EA		4" Steel Flanged Ball Joint (Hyspan BB-41533-64-21)	4,228.30	292.42
23 21 16 00-0524	EA		6" Steel Flanged Ball Joint (Hyspan BB-31533-66-11)	5,083.31	364.23
23 21 16 00-0525	EA		8" Steel Flanged Ball Joint (Hyspan BB-41533-68-21)	8,461.01	465.40
23 21 16 00-0526	EA		10" Steel Flanged Ball Joint (Hyspan BB-31533-70-11)	9,919.24	566.57
23 21 16 00-0527	EA		4" Stainless Steel Flanged Ball Joint (Hyspan BB-31524-64)	16,505.34	292.42
23 21 16 00-0528	EA		6" Stainless Steel Flanged Joint (Hyspan BB-31524-66-24)	24,932.71	364.23
23 21 16 00-0529	EA		6" Carbon Steel Flanged Ball Joint (Hyspan BB-41528-66-21)	7,525.67	364.23
23 21 16 00-0530	EA		8" Carbon Steel Flanged Ball Joint (Hyspan BB-41528-68-21)	9,690.02	465.40
23 21 16 00-0531	EA		12" Carbon Steel Flanged Ball Joint (Hyspan BB-41533-72-21)	16,799.03	
23 21 16 00-0532 Basket Strainers (23 21 16)					
23 21 16 00-0533 Bronze Body Basket Strainers (23 21 16 00-0532)					
23 21 16 00-0534 Screwed Ends, Bronze Body Basket Strainers (23 21 16 00-0533)					
23 21 16 00-0535	EA		1/2" Screwed Ends, Bronze Body Basket Strainer	321.42	22.30
			<i>For Work In Restricted Working Space, Add</i>	13.27	
23 21 16 00-0536	EA		3/4" Screwed Ends, Bronze Body Basket Strainer	379.89	26.20
			<i>For Work In Restricted Working Space, Add</i>	15.59	
23 21 16 00-0537	EA		1" Screwed Ends, Bronze Body Basket Strainer	440.57	31.21
			<i>For Work In Restricted Working Space, Add</i>	18.58	
23 21 16 00-0538	EA		1-1/4" Screwed Ends, Bronze Body Basket Strainer	549.14	34.55
			<i>For Work In Restricted Working Space, Add</i>	20.71	
23 21 16 00-0539	EA		1-1/2" Screwed Ends, Bronze Body Basket Strainer	648.63	39.01
			<i>For Work In Restricted Working Space, Add</i>	23.39	
23 21 16 00-0540	EA		2" Screwed Ends, Bronze Body Basket Strainer	967.93	44.59
			<i>For Work In Restricted Working Space, Add</i>	26.78	
23 21 16 00-0541	EA		2-1/2" Screwed Ends, Bronze Body Basket Strainer	1,369.64	59.64
			<i>For Work In Restricted Working Space, Add</i>	35.87	
23 21 16 00-0542	EA		3" Screwed Ends, Bronze Body Basket Strainer	1,929.44	63.54
			<i>For Work In Restricted Working Space, Add</i>	38.04	
23 21 16 00-0543 Flanged, Bronze Body Basket Strainers (23 21 16 00-0533)					
23 21 16 00-0544	EA		2" Flanged, Bronze Body Basket Strainer	1,517.37	148.59
			<i>For Work In Restricted Working Space, Add</i>	55.73	
23 21 16 00-0545	EA		2-1/2" Flanged, Bronze Body Basket Strainer	2,286.10	161.63
			<i>For Work In Restricted Working Space, Add</i>	60.80	
23 21 16 00-0546	EA		3" Flanged, Bronze Body Basket Strainer	2,592.36	189.50
			<i>For Work In Restricted Working Space, Add</i>	71.15	
23 21 16 00-0547	EA		4" Flanged, Bronze Body Basket Strainer	4,383.81	317.68
			<i>For Work In Restricted Working Space, Add</i>	119.43	
23 21 16 00-0548	EA		6" Flanged, Bronze Body Basket Strainer	8,326.87	355.55
			<i>For Work In Restricted Working Space, Add</i>	133.81	
23 21 16 00-0549	EA		8" Flanged, Bronze Body Basket Strainer	15,193.76	454.31
			<i>For Work In Restricted Working Space, Add</i>	169.31	
23 21 16 00-0550 Iron Body Basket Strainers (23 21 16 00-0532)					
23 21 16 00-0551 Screwed Ends, Iron Body Basket Strainers (23 21 16 00-0550)					
23 21 16 00-0552	EA		1/2" Screwed Ends, Iron Body Basket Strainer	369.50	22.30
			<i>For Work In Restricted Working Space, Add</i>	13.27	
23 21 16 00-0553	EA		3/4" Screwed Ends, Iron Body Basket Strainer	416.03	26.20
			<i>For Work In Restricted Working Space, Add</i>	15.59	
23 21 16 00-0554	EA		1" Screwed Ends, Iron Body Basket Strainer	491.64	31.21
			<i>For Work In Restricted Working Space, Add</i>	18.58	
23 21 16 00-0555	EA		1-1/4" Screwed Ends, Iron Body Basket Strainer	644.97	34.55
			<i>For Work In Restricted Working Space, Add</i>	20.71	
23 21 16 00-0556	EA		1-1/2" Screwed Ends, Iron Body Basket Strainer	707.59	39.01
			<i>For Work In Restricted Working Space, Add</i>	23.39	
23 21 16 00-0557	EA		2" Screwed Ends, Iron Body Basket Strainer	841.25	44.59
			<i>For Work In Restricted Working Space, Add</i>	26.78	
23 21 16 00-0558	EA		2-1/2" Screwed Ends, Iron Body Basket Strainer	1,193.84	59.64
			<i>For Work In Restricted Working Space, Add</i>	35.87	
23 21 16 00-0559	EA		3" Screwed Ends, Iron Body Basket Strainer	1,350.29	63.54
			<i>For Work In Restricted Working Space, Add</i>	38.04	



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0560		Flanged, Iron Body Basket Strainers (23 21 16 00-0560)		
23 21 16 00-0561	EA	2" Flanged, Iron Body Basket Strainer.....	1,311.13	148.59
		For Work In Restricted Working Space, Add	55.73	
23 21 16 00-0562	EA	2-1/2" Flanged, Iron Body Basket Strainer.....	1,719.43	161.63
		For Work In Restricted Working Space, Add	60.80	
23 21 16 00-0563	EA	3" Flanged, Iron Body Basket Strainer.....	1,851.79	189.60
		For Work In Restricted Working Space, Add	71.15	
23 21 16 00-0564	EA	4" Flanged, Iron Body Basket Strainer.....	2,828.19	317.68
		For Work In Restricted Working Space, Add	119.43	
23 21 16 00-0565	EA	6" Flanged, Iron Body Basket Strainer.....	5,175.74	355.55
		For Work In Restricted Working Space, Add	133.81	
23 21 16 00-0566	EA	8" Flanged, Iron Body Basket Strainer.....	9,289.88	454.31
		For Work In Restricted Working Space, Add	169.31	
23 21 16 00-0567	EA	10" Flanged, Iron Body Basket Strainer.....	13,820.38	553.07
		For Work In Restricted Working Space, Add	207.40	
23 21 16 00-0568	EA	12" Flanged, Iron Body Basket Strainer.....	16,969.84	697.27
		For Work In Restricted Working Space, Add	418.32	
23 21 16 00-0569	EA	14" Flanged, Iron Body Basket Strainer.....	20,640.43	790.10
		For Work In Restricted Working Space, Add	296.29	
23 21 16 00-0570	EA	16" Flanged, Iron Body Basket Strainer.....	21,636.20	869.11
		For Work In Restricted Working Space, Add	325.92	
23 21 16 00-0571		Cast Steel Body Basket Strainers (23 21 16 00-0571)		
23 21 16 00-0572		Screwed Ends, Cast Steel Body Basket Strainers (23 21 16 00-0571)		
23 21 16 00-0573	EA	1" Screwed Ends, Cast Steel Body Basket Strainer.....	1,847.17	31.21
		For Work In Restricted Working Space, Add	18.58	
23 21 16 00-0574	EA	1-1/4" Screwed Ends, Cast Steel Body Basket Strainer.....	2,451.88	34.55
		For Work In Restricted Working Space, Add	20.71	
23 21 16 00-0575	EA	1-1/2" Screwed Ends, Cast Steel Body Basket Strainer.....	2,763.35	39.01
		For Work In Restricted Working Space, Add	23.38	
23 21 16 00-0576	EA	2" Screwed Ends, Cast Steel Body Basket Strainer.....	3,909.37	44.59
		For Work In Restricted Working Space, Add	26.78	
23 21 16 00-0577	EA	2-1/2" Screwed Ends, Cast Steel Body Basket Strainer.....	5,490.40	59.64
		For Work In Restricted Working Space, Add	35.87	
23 21 16 00-0578	EA	3" Screwed Ends, Cast Steel Body Basket Strainer.....	7,161.88	63.54
		For Work In Restricted Working Space, Add	38.05	
23 21 16 00-0579		Flanged, Cast Steel Body Basket Strainers (23 21 16 00-0579)		
23 21 16 00-0580	EA	2" Flanged, Cast Steel Body Basket Strainer.....	5,745.74	148.59
		For Work In Restricted Working Space, Add	55.73	
23 21 16 00-0581	EA	2-1/2" Flanged, Cast Steel Body Basket Strainer.....	8,334.58	161.63
		For Work In Restricted Working Space, Add	60.80	
23 21 16 00-0582	EA	3" Flanged, Cast Steel Body Basket Strainer.....	9,125.54	189.50
		For Work In Restricted Working Space, Add	71.15	
23 21 16 00-0583	EA	4" Flanged, Cast Steel Body Basket Strainer.....	12,879.64	317.68
		For Work In Restricted Working Space, Add	119.43	
23 21 16 00-0584	EA	6" Flanged, Cast Steel Body Basket Strainer.....	22,950.63	355.55
		For Work In Restricted Working Space, Add	133.81	
23 21 16 00-0585	EA	8" Flanged, Cast Steel Body Basket Strainer.....	37,441.66	454.31
		For Work In Restricted Working Space, Add	169.31	
23 21 16 00-0586		Stainless Steel Body Basket Strainers (23 21 16 00-0586)		
23 21 16 00-0587		Screwed Ends, Stainless Steel Body Basket Strainers (23 21 16 00-0587)		
23 21 16 00-0588	EA	1" Screwed Ends, Stainless Steel Body Basket Strainer.....	564.65	31.21
		For Work In Restricted Working Space, Add	18.58	
23 21 16 00-0589	EA	1-1/4" Screwed Ends, Stainless Steel Body Basket Strainer.....	813.16	34.55
		For Work In Restricted Working Space, Add	20.71	
23 21 16 00-0590	EA	1-1/2" Screwed Ends, Stainless Steel Body Basket Strainer.....	839.48	39.01
		For Work In Restricted Working Space, Add	23.38	
23 21 16 00-0591	EA	2" Screwed Ends, Stainless Steel Body Basket Strainer.....	1,241.53	44.59
		For Work In Restricted Working Space, Add	26.78	
23 21 16 00-0592	EA	2-1/2" Screwed Ends, Stainless Steel Body Basket Strainer.....	1,754.63	59.64
		For Work In Restricted Working Space, Add	35.87	
23 21 16 00-0593	EA	3" Screwed Ends, Stainless Steel Body Basket Strainer.....	2,478.66	63.54
		For Work In Restricted Working Space, Add	38.05	
23 21 16 00-0594		Flanged, Stainless Steel Body Basket Strainers (23 21 16 00-0594)		
23 21 16 00-0595	EA	2" Flanged, Stainless Steel Body Basket Strainer.....	1,900.50	148.59
		For Work In Restricted Working Space, Add	55.73	
23 21 16 00-0596	EA	2-1/2" Flanged, Stainless Steel Body Basket Strainer.....	2,873.05	161.63
		For Work In Restricted Working Space, Add	60.80	
23 21 16 00-0597	EA	3" Flanged, Stainless Steel Body Basket Strainer.....	3,253.48	189.50
		For Work In Restricted Working Space, Add	71.15	
23 21 16 00-0598	EA	4" Flanged, Stainless Steel Body Basket Strainer.....	5,499.95	317.68
		For Work In Restricted Working Space, Add	119.43	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0599	EA	6" Flanged, Stainless Steel Body Basket Strainer	8,409.89	355.55
		<i>For Work In Restricted Working Space, Add</i>	133.81	
23 21 16 00-0600	EA	8" Flanged, Stainless Steel Body Basket Strainer	14,600.68	454.31
		<i>For Work In Restricted Working Space, Add</i>	169.31	
23 21 16 00-0601		Plastic Basket Strainers (23 21 16 00-0532)		
23 21 16 00-0602		Screwed Or Socket Ends, Simplex, Plastic Basket Strainers (23 21 16 00-0601)		
23 21 16 00-0603		Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainers (23 21 16 00-0602)		
23 21 16 00-0604	EA	1 1/2" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	520.01	15.61
		<i>For Work In Restricted Working Space, Add</i>	13.27	
23 21 16 00-0605	EA	3/4" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	527.75	18.17
		<i>For Work In Restricted Working Space, Add</i>	15.59	
23 21 16 00-0606	EA	1" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	537.71	21.62
		<i>For Work In Restricted Working Space, Add</i>	18.58	
23 21 16 00-0607	EA	1-1/2" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	895.76	27.31
		<i>For Work In Restricted Working Space, Add</i>	23.38	
23 21 16 00-0608	EA	2" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	922.52	31.21
		<i>For Work In Restricted Working Space, Add</i>	26.78	
23 21 16 00-0609	EA	3" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	2,014.53	44.59
		<i>For Work In Restricted Working Space, Add</i>	38.05	
23 21 16 00-0610	EA	4" Screwed Or Socket Ends, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	2,666.96	58.52
		<i>For Work In Restricted Working Space, Add</i>	50.15	
23 21 16 00-0611		Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainers (23 21 16 00-0602)		
23 21 16 00-0612	EA	1 1/2" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer	817.18	15.61
		<i>For Work In Restricted Working Space, Add</i>	13.27	
23 21 16 00-0613	EA	3/4" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer	824.92	18.17
		<i>For Work In Restricted Working Space, Add</i>	15.59	
23 21 16 00-0614	EA	1" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer	834.88	21.62
		<i>For Work In Restricted Working Space, Add</i>	18.58	
23 21 16 00-0615	EA	1-1/2" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer	1,454.16	27.31
		<i>For Work In Restricted Working Space, Add</i>	23.38	
23 21 16 00-0616	EA	2" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer	1,492.42	31.21
		<i>For Work In Restricted Working Space, Add</i>	26.78	
23 21 16 00-0617	EA	3" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer	625.07	44.59
		<i>For Work In Restricted Working Space, Add</i>	38.05	
23 21 16 00-0618	EA	4" Screwed Or Socket Ends, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer	4,050.76	58.52
		<i>For Work In Restricted Working Space, Add</i>	50.15	
23 21 16 00-0619		Flanged, Simplex, Plastic Basket Strainers (23 21 16 00-0601)		
23 21 16 00-0620		Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainers (23 21 16 00-0619)		
23 21 16 00-0621	EA	1" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	740.23	97.53
		<i>For Work In Restricted Working Space, Add</i>	58.50	
23 21 16 00-0622	EA	1-1/2" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	1,197.64	111.47
		<i>For Work In Restricted Working Space, Add</i>	66.88	
23 21 16 00-0623	EA	2" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	1,252.41	129.86
		<i>For Work In Restricted Working Space, Add</i>	77.91	
23 21 16 00-0624	EA	3" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	2,502.92	189.50
		<i>For Work In Restricted Working Space, Add</i>	71.15	
23 21 16 00-0625	EA	4" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	3,353.09	317.68
		<i>For Work In Restricted Working Space, Add</i>	119.43	
23 21 16 00-0626	EA	6" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	6,806.87	401.28
		<i>For Work In Restricted Working Space, Add</i>	151.02	
23 21 16 00-0627	EA	8" Flanged, Simplex, Polyvinyl Chloride (PVC) Basket Strainer	8,943.85	512.74
		<i>For Work In Restricted Working Space, Add</i>	191.08	
23 21 16 00-0628		Flanged, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainers (23 21 16 00-0619)		
23 21 16 00-0629	EA	1-1/2" Flanged, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer	1,771.52	111.47
		<i>For Work In Restricted Working Space, Add</i>	66.88	
23 21 16 00-0630	EA	2" Flanged, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer	1,840.61	129.86
		<i>For Work In Restricted Working Space, Add</i>	77.91	
23 21 16 00-0631	EA	3" Flanged, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer	3,980.71	189.50
		<i>For Work In Restricted Working Space, Add</i>	71.15	
23 21 16 00-0632	EA	4" Flanged, Simplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer	4,984.61	317.68
		<i>For Work In Restricted Working Space, Add</i>	119.43	
23 21 16 00-0633		Screwed Or Socket Ends, Duplex, Plastic Basket Strainers (23 21 16 00-0601)		
23 21 16 00-0634		Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainers (23 21 16 00-0633)		
23 21 16 00-0635	EA	1 1/2" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer	2,302.27	15.61
		<i>For Work In Restricted Working Space, Add</i>	13.27	

**Heating, Ventilating, and Air-Conditioning (HVAC)****23**

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 16 00-0636 EA 3/4" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	2,310.01 15.59	18.17
23 21 16 00-0637 EA 1" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	2,319.97 18.58	21.62
23 21 16 00-0638 EA 1-1/2" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	3,593.58 23.38	27.31
23 21 16 00-0639 EA 2" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	3,604.91 26.78	31.21
23 21 16 00-0640 EA 3" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	8,065.98 38.05	44.59
23 21 16 00-0641 EA 4" Screwed Or Socket Ends, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	10,639.54 50.15	58.52
23 21 16 00-0642 Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainers (23 21 16 00-0633)		
23 21 16 00-0643 EA 1/2" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	3,585.79 13.27	15.61
23 21 16 00-0644 EA 3/4" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	3,593.53 15.59	18.17
23 21 16 00-0645 EA 1" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	3,603.49 18.58	21.62
23 21 16 00-0646 EA 1-1/2" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	5,601.68 23.38	27.31
23 21 16 00-0647 EA 2" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	5,613.01 26.78	31.21
23 21 16 00-0648 EA 3" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	10,961.57 38.05	44.59
23 21 16 00-0649 EA 4" Screwed Or Socket Ends, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	16,490.66 50.15	58.52
23 21 16 00-0650 Flanged, Duplex, Plastic Basket Strainers (23 21 16 00-0601)		
23 21 16 00-0651 Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainers (23 21 16 00-0650)		
23 21 16 00-0652 EA 1/2" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	2,393.09 25.08	41.79
23 21 16 00-0653 EA 3/4" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	2,420.95 33.44	55.73
23 21 16 00-0654 EA 1" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	2,504.49 58.50	97.53
23 21 16 00-0655 EA 1-1/2" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	3,872.31 66.88	111.47
23 21 16 00-0656 EA 2" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	3,909.08 77.91	129.86
23 21 16 00-0657 EA 3" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	8,459.20 71.15	189.50
23 21 16 00-0658 EA 4" Flanged, Duplex, Polyvinyl Chloride (PVC) Basket Strainer..... For Work In Restricted Working Space, Add	11,227.94 119.43	317.68
23 21 16 00-0659 Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainers (23 21 16 00-0650)		
23 21 16 00-0660 EA 1/2" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	3,700.55 25.07	41.79
23 21 16 00-0661 EA 3/4" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	3,728.39 33.43	55.73
23 21 16 00-0662 EA 1" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	3,811.98 58.50	97.53
23 21 16 00-0663 EA 1-1/2" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	5,945.98 66.88	111.47
23 21 16 00-0664 EA 2" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	5,982.75 77.91	129.86
23 21 16 00-0665 EA 3" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	13,425.76 71.15	189.50
23 21 16 00-0666 EA 4" Flanged, Duplex, Chlorinated Polyvinyl Chloride (CPVC) Basket Strainer..... For Work In Restricted Working Space, Add	17,429.89 119.43	317.68
23 21 16 00-0667 Plastic Strainer Baskets (23 21 16 00-0532)		
23 21 16 00-0668 Polyvinyl Chloride (PVC) Strainer Baskets (23 21 16 00-0667)		
23 21 16 00-0669 EA 1/2", 3/4" Or 1" Polyvinyl Chloride (PVC) Strainer Basket.....	200.86	
23 21 16 00-0670 EA 1-1/2", Or 2" Polyvinyl Chloride (PVC) Strainer Basket.....	246.38	
23 21 16 00-0671 EA 3" Polyvinyl Chloride (PVC) Strainer Basket.....	552.94	
23 21 16 00-0672 EA 4" Polyvinyl Chloride (PVC) Strainer Basket.....	627.52	
23 21 16 00-0673 Chlorinated Polyvinyl Chloride (CPVC) Strainer Baskets (23 21 16 00-0667)		
23 21 16 00-0674 EA 1/2", 3/4" Or 1" Chlorinated Polyvinyl Chloride (CPVC) Strainer Basket.....	309.72	
23 21 16 00-0675 EA 1-1/2" Or 2" Chlorinated Polyvinyl Chloride (CPVC) Strainer Basket.....	387.82	
23 21 16 00-0676 EA 3" Chlorinated Polyvinyl Chloride (CPVC) Strainer Basket.....	861.82	
23 21 16 00-0677 EA 4" Chlorinated Polyvinyl Chloride (CPVC) Strainer Basket.....	956.09	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST**23 21 23 Hydronic Pumps (23 21)****23 21 23 13 In-Line Centrifugal Hydronic Pumps (23 21 23)****23 21 23 13-0001 Cast Iron Single Stage In-Line Centrifugal Pump (23 21 23 13)**

Note: For general service, 125 LB flanged, 3550 RPM TEFC motor. Includes packed stuffing boxes and ductile iron case.

23 21 23 13-0002	EA	3 HP, 50 GPM At 100' Head, Single Stage Cast Iron In-Line Circulating Pump	6,124.15	297.72
		For Mechanical Seal, Add	418.57	
		For Cast Steel Case, Add	941.66	
23 21 23 13-0003	EA	5 HP, 75 GPM At 100' Head, Single Stage Cast Iron In-Line Circulating Pump	6,688.88	360.34
		For Mechanical Seal, Add	448.66	
		For Cast Steel Case, Add	1,009.48	
23 21 23 13-0004	EA	7-1/2 HP, 100 GPM At 150' Head, Single Stage Cast Iron In-Line Circulating Pump	7,731.99	428.11
		For Mechanical Seal, Add	515.90	
		For Cast Steel Case, Add	1,160.77	
23 21 23 13-0005	EA	10 HP, 125 GPM At 150' Head, Single Stage Cast Iron In-Line Circulating Pump	8,664.79	570.80
		For Mechanical Seal, Add	556.30	
		For Cast Steel Case, Add	1,251.67	
23 21 23 13-0006	EA	15 HP, 150 GPM At 200' Head, Single Stage Cast Iron In-Line Circulating Pump	9,931.72	622.14
		For Mechanical Seal, Add	645.21	
		For Cast Steel Case, Add	1,451.72	
23 21 23 13-0007	EA	30 HP, 200 GPM At 300' Head, Single Stage Cast Iron In-Line Circulating Pump	14,834.76	684.76
		For Mechanical Seal, Add	1,022.52	
		For Cast Steel Case, Add	2,300.67	
23 21 23 13-0008	EA	40 HP, 250 GPM At 300' Head, Single Stage Cast Iron In-Line Circulating Pump	17,434.65	855.19
		For Mechanical Seal, Add	1,189.45	
		For Cast Steel Case, Add	2,676.25	
23 21 23 13-0009	EA	50 HP, 300 GPM At 300' Head, Single Stage Cast Iron In-Line Circulating Pump	24,243.18	977.35
		For Mechanical Seal, Add	1,704.80	
		For Cast Steel Case, Add	3,835.79	
23 21 23 13-0010	EA	75 HP, 400 GPM At 400' Head, Single Stage Cast Iron In-Line Circulating Pump	30,824.43	1,024.17
		For Mechanical Seal, Add	2,220.14	
		For Cast Steel Case, Add	4,995.33	
23 21 23 13-0011	EA	100 HP, 600 GPM At 400' Head, Single Stage Cast Iron In-Line Circulating Pump	33,667.48	1,316.51
		For Mechanical Seal, Add	2,377.36	
		For Cast Steel Case, Add	5,349.05	

23 21 23 13-0012 Cast Iron, Single Stage, Vertical In-Line, Close Coupled, Pump (23 21 23 13)

Note: For general service, 125 LB flanged, 1,800 RPM TEFC motor.

23 21 23 13-0013	EA	1/2 HP, 1-1/2" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	2,067.36	170.94
23 21 23 13-0014	EA	3/4 HP, 2" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	3,645.38	195.37
23 21 23 13-0015	EA	1 HP, 3" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	3,962.49	218.78
23 21 23 13-0016	EA	1-1/2 HP, 3" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	4,167.68	237.87
23 21 23 13-0017	EA	2 HP, 4" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	5,444.35	260.46
23 21 23 13-0018	EA	3 HP, 5" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	5,600.68	287.87
23 21 23 13-0019	EA	5 HP, 6" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	6,404.15	341.87
23 21 23 13-0020	EA	7-1/2 HP, 6" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	7,455.11	420.82
23 21 23 13-0021	EA	10 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	9,583.08	455.82
23 21 23 13-0022	EA	15 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	11,193.06	482.62
23 21 23 13-0023	EA	20 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	14,367.05	512.80
23 21 23 13-0024	EA	25 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	15,158.40	529.95
23 21 23 13-0025	EA	30 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	15,949.76	546.99
23 21 23 13-0026	EA	40 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	18,928.54	586.11
23 21 23 13-0027	EA	50 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	20,538.44	695.04
23 21 23 13-0028	EA	60 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	22,748.74	1,003.90
23 21 23 13-0029	EA	75 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	27,046.06	2,007.79
23 21 23 13-0030	EA	100 HP, 8" Suction And Discharge, Single Stage Cast Iron Vertical In-Line Pump	31,113.41	2,409.35

23 21 23 16 Base-Mounted, Centrifugal Hydronic Pumps (23 21 23)

See CSI section 25 29 23 00-0000 for variable frequency motor controllers.

23 21 23 16-0001 Single Stage, Cast Iron, Horizontal End Suction, Base Mounted Centrifugal Pump (23 21 23 16)

Note: 1800 RPM, welded steel baseplate, internally flushed mechanical seal, bronze wear ring, galvanized drip pan, and 3 phase 230/460V premium efficiency motor. Bell & Gossett 1510 Series.

23 21 23 16-0002	EA	5 HP, 50 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 1-1/4 BC, BF, 184T)	6,372.64	325.44
23 21 23 16-0003	EA	7.5 HP, 100 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 1-1/2 BC, BF, 213T)	7,154.50	325.85
23 21 23 16-0004	EA	10 HP, 225 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 2 E, BF, 215T)	9,438.80	428.11
23 21 23 16-0005	EA	15 HP, 250 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 2 E, BF, 254T)	10,327.52	526.66
23 21 23 16-0006	EA	15 HP, 300 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 3 G, BF, 254T)	11,577.25	526.66
23 21 23 16-0007	EA	20 HP, 350 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 3 E, BF, 256T)	11,245.48	570.80
23 21 23 16-0008	EA	20 HP, 500 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 4 E, BF, 256T)	11,956.00	570.80
23 21 23 16-0009	EA	25 HP, 600 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 4 E, BF, 284T)	13,064.44	598.53
23 21 23 16-0010	EA	30 HP, 750 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 5 E, BF, 286T)	14,523.11	760.74
23 21 23 16-0011	EA	40 HP, 1,050 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 5 E, BF, 324T)	15,355.92	855.19
23 21 23 16-0012	EA	60 HP, 1,500 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 6 E, BF, 364T)	23,613.66	2,110.67
23 21 23 16-0013	EA	75 HP, 2,000 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 8 G, BF, 365T)	34,288.47	2,532.35
23 21 23 16-0014	EA	100 HP, 3,000 GPM At 100' Head Single Stage Cast Iron Centrifugal Pump (B&G 1510, 8 G, BF, 404TS)	38,856.53	3,165.43



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Piping and Pumps			23 20
Hydronic Piping and Pumps			23 21

23

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST	
23 21 23 16-0015	Single Stage, Vertical Split Case, Cast Iron, Horizontal End Suction, Base Mounted Centrifugal Pump (23 21 23 16) Note: 125 LB flanged, 1750 RPM drip-proof motor, common base plate 100' head. Standard seal and motor. For general service.				
23 21 23 16-0016	EA 1-1/2 HP, 40 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	6,120.07 1,422.18	239.20		
23 21 23 16-0017	EA 2 HP, 50 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	7,802.35 1,854.34	256.66		
23 21 23 16-0018	EA 3 HP, 90 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	9,780.85 2,331.14	274.11		
23 21 23 16-0019	EA 5 HP, 100 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	11,406.65 2,705.00	325.44		
23 21 23 16-0020	EA 7-1/2 HP, 150 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	11,998.19 2,843.05	325.85		
23 21 23 16-0021	EA 10 HP, 200 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	12,524.90 2,938.73	428.11		
23 21 23 16-0022	EA 10 HP, 225 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	12,805.02 3,008.76	428.11		
23 21 23 16-0023	EA 10 HP, 250 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	13,425.50 3,163.88	428.11		
23 21 23 16-0024	EA 15 HP, 300 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	15,583.22 3,658.89	526.66		
23 21 23 16-0025	EA 17-1/2 HP, 350 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	15,823.97 3,709.52	526.25		
23 21 23 16-0026	EA 20 HP, 500 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	16,680.62 3,913.50	570.80		
23 21 23 16-0027	EA 25 HP, 600 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	18,304.66 4,299.00	598.53		
23 21 23 16-0028	EA 30 HP, 750 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	20,225.57 4,714.18	760.74		
23 21 23 16-0029	EA 40 HP, 1,050 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	22,944.52 5,351.14	855.19		
23 21 23 16-0030	EA 60 HP, 1,500 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	35,904.20 7,958.59	2,110.67		
23 21 23 16-0031	EA 75 HP, 2,000 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	42,702.99 9,454.79	2,532.35		
23 21 23 16-0032	EA 100 HP, 3,000 GPM Cast Iron Centrifugal Pump, Single Stage, Vertical Split Case..... For 300 LB Flanges, Add	52,081.68 11,494.23	3,165.43		
23 21 23 16-0033	Single Stage, Horizontal Split Case, Cast Iron, Horizontal End Suction, Base Mounted Centrifugal Pump (23 21 23 16) Note: 125 LB flanged, 1750 RPM drip-proof motor, common base plate 100' head. Standard seal and motor. For general service.				
23 21 23 16-0034	EA 1-1/2 HP, 40 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	5,879.38 1,362.01	239.20		
23 21 23 16-0035	EA 2 HP, 50 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	6,035.48 1,393.36	256.66		
23 21 23 16-0036	EA 3 HP, 90 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	6,191.71 1,424.73	274.11		
23 21 23 16-0037	EA 5 HP, 100 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	6,725.75 1,555.21	280.27		
23 21 23 16-0038	EA 7-1/2 HP, 100 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	10,972.67 2,596.51	325.44		
23 21 23 16-0039	EA 10 HP, 250 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	13,292.52 3,156.68	428.11		
23 21 23 16-0040	EA 15 HP, 350 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	14,946.85 3,544.22	461.98		
23 21 23 16-0041	EA 20 HP, 500 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	15,806.58 3,714.73	513.31		
23 21 23 16-0042	EA 25 HP, 750 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	17,603.32 4,170.38	512.58		
23 21 23 16-0043	EA 40 HP, 1,000 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	19,721.90 4,634.19	658.74		
23 21 23 16-0044	EA 50 HP, 1,500 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	25,134.12 5,876.55	844.49		
23 21 23 16-0045	EA 75 HP, 2,000 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	32,079.27 7,511.09	1,054.76		
23 21 23 16-0046	EA 3,000 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case, 100 HP..... For 300 LB Flanges, Add	40,342.17 9,475.07	1,266.17		
23 21 23 16-0047	EA 150 HP, 3,500 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	47,810.17 11,274.24	1,406.35		
23 21 23 16-0048	EA 200 HP, 4,000 GPM Cast Iron Centrifugal Pump, Single Stage, Horizontal Split Case..... For 300 LB Flanges, Add	55,025.92 12,884.37	1,808.82		
23 21 23 16-0049	Two Stage, Horizontal Split Case, Cast Iron, Horizontal End Suction, Base Mounted Centrifugal Pump (23 21 23 16) Note: 3500 RPM drip-proof motor, common base plate 500' head. Packed stuffing box and boiler feed water service.				

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 21 Hydronic Piping and Pumps**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 23 16-0050 EA 40 HP, 100 GPM Cast Iron Centrifugal Pump, Two Stage, Horizontal Split Case <i>For 300 LB Flanges, Add</i>	37,391.15 9,110.87	526.66
23 21 23 16-0051 EA 50 HP, 200 GPM Cast Iron Centrifugal Pump, Two Stage, Horizontal Split Case <i>For 300 LB Flanges, Add</i>	40,364.97 9,834.59	570.80
23 21 23 16-0052 EA 75 HP, 300 GPM Cast Iron Centrifugal Pump, Two Stage, Horizontal Split Case <i>For 300 LB Flanges, Add</i>	53,901.98 13,120.98	774.23
23 21 23 16-0053 EA 100 HP, 400 GPM Cast Iron Centrifugal Pump, Two Stage, Horizontal Split Case <i>For 300 LB Flanges, Add</i>	62,935.91 15,246.52	1,063.85
23 21 23 16-0054 EA 200 HP, 800 GPM Cast Iron Centrifugal Pump, Two Stage, Horizontal Split Case <i>For 300 LB Flanges, Add</i>	87,325.18 21,181.35	1,418.46
23 21 23 16-0055 Cast Iron Close Coupling Pumps (23 21 23 16)		
23 21 23 16-0056 Foot Mounted Cast Iron Close Coupled Pumps (23 21 23 16-0055)		
23 21 23 16-0057 EA 3 HP, 90 GPM At 50' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 1-1/2 AC, BF, 182JM).....	5,701.02	307.99
23 21 23 16-0058 EA 3 HP, 150 GPM At 40' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 2-1/2 AB, BF, 182JM).....	6,212.14	307.99
23 21 23 16-0059 EA 5 HP, 225 GPM At 50' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 2-1/2 BB, BF, 184JM).....	6,912.20	325.11
23 21 23 16-0060 EA 5 HP, 350 GPM At 25' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 4 AC, BF, 184JM).....	7,364.35	325.11
23 21 23 16-0061 EA 7.5 HP, 350 GPM At 40' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 4 AC, BF, 213JM).....	8,471.63	341.87
23 21 23 16-0062 EA 10 HP, 600 GPM At 40' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 5 A, BF, 215JM).....	10,038.79	411.52
23 21 23 16-0063 EA 15 HP, 1,000 GPM At 40' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 6 BC, BF, 254JP).....	13,186.93	506.95
23 21 23 16-0064 EA 20 HP, 1,350 GPM At 30' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 6 BC, BF, 256JP).....	14,115.26	548.69
23 21 23 16-0065 EA 25 HP, 1,550 GPM At 40' Head, Foot Mounted, Close Coupled Cast Iron Centrifugal Pump (B&G 1531, 6 BC, BF, 284JP).....	16,358.81	592.57
23 21 23 16-0066 Pumps, Polypropylene Body, Housing And Impeller, 115/230 Volt (23 21 23 16)		
23 21 23 16-0067 EA 1/3 HP, Centrifugal Pump, Polypropylene Body	1,430.22	159.06
23 21 23 16-0068 EA 1/2 HP, Centrifugal Pump, Polypropylene Body	1,525.87	168.65
23 21 23 16-0069 EA 3/4 HP, Centrifugal Pump, Polypropylene Body	1,781.26	179.57
23 21 23 16-0070 Multi Stage, Stainless Steel, Horizontal End Suction, Base Mounted Centrifugal Pump (23 21 23 16)		
Note: 3500RPM, 3 phase 208 to 240/480 Volt. (Goulds EHM)		
23 21 23 16-0071 EA 2 HP, 30 GPM At 140' Head, Stainless Steel Booster Pump (Goulds 5HM05N15T6PBQE).....	2,670.32	307.99
23 21 23 16-0072 Multi Stage, Stainless Steel, Vertical Centrifugal Pump (23 21 23 16)		
Note: Suction And Discharge Ports On The Same Level		
23 21 23 16-0073 EA 7.5 HP, 90.3 GPM @ 206' Head, Multi Stage, Stainless Steel, Vertical Centrifugal Pump (Grundfos CRN15-4).....	9,055.00	438.37
23 21 23 16-0074 EA 15 HP, 159 GPM @ 250' Head, Multi Stage, Stainless Steel, Vertical Centrifugal Pump (Grundfos CRN32-4).....	12,411.97	542.06
23 21 23 16-0075 EA 25 HP, 239 GPM @ 212' Head, Multi Stage, Stainless Steel, Vertical Centrifugal Pump (Grundfos CRN64-2).....	15,204.99	683.74
23 21 23 23 Vertical-Turbine Hydronic Pumps (23 21 23)		
See CSI section 26 29 23 00-0000 for variable frequency motor controllers.		
23 21 23 23-0001 Cast Iron, Bronze Fitted Vertical Turbine Wet Sump Pumps (23 21 23 23)		
Note: For water supply, cooling towers and process liquids. Multi-stage 1750 RPM drip-proof motor. For 1' to 5' sump depth.		
23 21 23 23-0002 EA 2 HP, 50 GPM Cast Iron Turbine Pump, 3" Discharge 100' Head, 10 Stage..... <i>For Each Extra Column Assembly <60", Add</i> <i>For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add</i> <i>For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add</i>	11,919.84 999.22 431.17 311.97	760.74
23 21 23 23-0003 EA 3 HP, 100 GPM Cast Iron Turbine Pump, 4" Discharge 100' Head, 7 Stage..... <i>For Each Extra Column Assembly <60", Add</i> <i>For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add</i> <i>For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add</i>	13,762.66 1,147.01 504.51 366.88	855.19
23 21 23 23-0004 EA 15 HP, 250 GPM Cast Iron Turbine Pump, 6" Discharge 150' Head, 5 Stage..... <i>For Each Extra Column Assembly <60", Add</i> <i>For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add</i> <i>For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add</i>	16,659.67 1,393.34 605.82 439.23	844.49
23 21 23 23-0005 EA 25 HP, 500 GPM Cast Iron Turbine Pump, 6" Discharge 150' Head, 3 Stage..... <i>For Each Extra Column Assembly <60", Add</i> <i>For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add</i> <i>For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add</i>	19,653.68 1,634.91 723.53 527.00	974.51
23 21 23 23-0006 EA 50 HP, 1,000 GPM Cast Iron Turbine Pump, 8" Discharge 150' Head, 2 Stage..... <i>For Each Extra Column Assembly <60", Add</i> <i>For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add</i> <i>For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add</i>	24,217.46 2,005.23 900.87 658.69	1,054.76
23 21 23 23-0007 EA 100 HP, 2,000 GPM Cast Iron Turbine Pump, 10" Discharge 150' Head, 3 Stage..... <i>For Each Extra Column Assembly <60", Add</i> <i>For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add</i> <i>For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add</i>	31,853.02 2,629.64 1,192.72 874.19	1,266.17



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Hydronic Piping and Pumps

23 21

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 21 23 23-0008 EA 150 HP, 3,000 GPM Cast Iron Turbine Pump, 10" Discharge 150' Head, 2 Stage For Each Extra Column Assembly <60", Add For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add EA 200 HP, 4,000 GPM Cast Iron Turbine Pump, 12" Discharge 150' Head, 2 Stage For Each Extra Column Assembly <60", Add For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add 23 21 23 23-0010 EA 250 HP, 6,000 GPM Cast Iron Turbine Pump, 14" Discharge 150' Head, 2 Stage For Each Extra Column Assembly <60", Add For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add 23 21 23 23-0011 EA 300 HP, 10,000 GPM Cast Iron Turbine Pump, 18" Discharge 100' Head, 2 Stage For Each Extra Column Assembly <60", Add For Basket Strainer, Galvanized. Steel Pipe Sizes 3" To 8", Add For Basket Strainer, Galvanized Steel Pipe Sizes 10" And Larger, Add	38,120.89 3,151.42 1,423.09 1,041.88 61,095.68 5,003.94 2,327.55 1,716.59 80,126.38 6,545.77 3,069.39 2,268.13 112,196.12 9,138.48 4,325.05 3,203.09	1,582.72 1,808.82 2,110.67 2,532.35

23 21 29 Automatic Condensate Pump Units (23 21)

23 21 29 00-0001	Automatic Shallow Pan Condensate Pump (23 21 29)		
23 21 29 00-0002 EA	1/150 HP, 205 GPH (Max) Automatic Shallow Pan Condensate Pump (Little Giant 1-ABS)	213.99	33.36
23 21 29 00-0003 EA	1/40 HP, 300 GPH (Max) Automatic Shallow Pan Condensate Pump (Little Giant 2-ABS)	232.40	33.36
23 21 29 00-0004 EA	1/12 HP, 310 GPH (Max) Automatic Shallow Pan Condensate Pump (Little Giant 3-ABS)	363.87	38.49

23 21 29 00-0005 Automatic Condensate Pump With Tank (23 21 29)

23 21 29 00-0006 EA	1/20 HP Automatic Condensate Pump With Tank (Hartell KT-15-1UL)	116.54	25.67
23 21 29 00-0007 EA	1/30 HP Automatic Condensate Pump With Tank (Little Giant VCMX-20)	124.41	25.67
23 21 29 00-0008 EA	1/50 HP, 200 GPH (Max) Automatic Condensate Removal Pump With Safety Switch (Little Giant VCL-14ULS)	207.96	33.36
23 21 29 00-0009 EA	1/18 HP, 270 GPH (Max) Automatic Condensate Removal Pump With Safety Switch (Little Giant VCL-24ULS)	224.25	38.49
23 21 29 00-0010 EA	1/5 HP, 450 GPH (Max) Automatic Condensate Removal Pump With Safety Switch (Little Giant VCL-45ULS)	416.99	43.64

23 22 Steam and Condensate Piping and Pumps (23 20)

23 22 16 Steam and Condensate Heating Piping Specialties (23 22)

23 22 16 00-0001	High Temperature Safety Relief Valve (23 22 16)		
Note: Used in steam or water boiler, heating systems and unfired pressure vessel applications.			
23 22 16 00-0002	Cast Iron Body Safety Valve, Steam Or Water (23 22 16 00-0001)		
Note: Variable set points to 500 psig pressure, 400 Degree F temperature range.			
23 22 16 00-0003	Threaded (23 22 16 00-0002)		
23 22 16 00-0004 EA	3/4" x 1" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	498.15	16.71
23 22 16 00-0005 EA	1" x 1-1/4" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	520.92	19.78
23 22 16 00-0006 EA	1-1/4" x 1-1/2" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	574.04	25.07
23 22 16 00-0007 EA	1-1/2" x 2" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	708.59	27.86
23 22 16 00-0008 EA	2" x 2-1/2" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	907.43	34.26
23 22 16 00-0009 EA	2-1/2" x 2-1/2" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	1,410.57	39.00
23 22 16 00-0010 EA	3" x 3" Threaded Cast Iron Body Safety Relief Valve, Steam or Water	1,528.20	44.85

23 22 16 00-0011 Flanged (23 22 16 00-0002)

23 22 16 00-0012 EA	1-1/2" x 2-1/2" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	3,523.40	116.99
23 22 16 00-0013 EA	2" x 3" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	4,099.49	175.86
23 22 16 00-0014 EA	2-1/2" x 3" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	4,531.19	161.94
23 22 16 00-0015 EA	2-1/2" x 4" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	5,501.23	233.90
23 22 16 00-0016 EA	3" x 3" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	5,876.22	174.43
23 22 16 00-0017 EA	3" x 4" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	6,902.25	233.90
23 22 16 00-0018 EA	4" x 6" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	11,554.55	331.92
23 22 16 00-0019 EA	6" x 8" Flanged Cast Iron Body Safety Relief Valve, Steam or Water	23,001.71	370.70

23 22 16 00-0020 Bronze Body Safety Valve, Threaded, Steam (23 22 16 00-0001)

Note: Variable set points to 250 psig pressure, 400 Degree F temperature range. Valve also can be set for Air or Gas with variable set points to 300 psig pressure.			
23 22 16 00-0021 EA	3/4" x 3/4" Threaded Bronze Body Safety Relief Valve, Steam	542.63	15.32
23 22 16 00-0022 EA	3/4" x 1" Threaded Bronze Body Safety Relief Valve, Steam	555.62	16.71
23 22 16 00-0023 EA	1" x 1" Threaded Bronze Body Safety Relief Valve, Steam	650.58	18.38
23 22 16 00-0024 EA	1" x 1-1/4" Threaded Bronze Body Safety Relief Valve, Steam	718.54	19.78
23 22 16 00-0025 EA	1-1/4" x 1-1/4" Threaded Bronze Body Safety Relief Valve, Steam	831.50	22.29
23 22 16 00-0026 EA	1-1/4" x 1-1/2" Threaded Bronze Body Safety Relief Valve, Steam	835.06	25.07
23 22 16 00-0027 EA	1-1/2" x 1-1/2" Threaded Bronze Body Safety Relief Valve, Steam	939.64	26.46
23 22 16 00-0028 EA	1-1/2" x 2" Threaded Bronze Body Safety Relief Valve, Steam	1,024.22	27.86
23 22 16 00-0029 EA	2" x 2" Threaded Bronze Body Safety Relief Valve, Steam	1,423.85	31.20
23 22 16 00-0030 EA	2" x 2-1/2" Threaded Bronze Body Safety Relief Valve, Steam	1,556.06	34.26
23 22 16 00-0031 EA	2-1/2" x 2-1/2" Threaded Bronze Body Safety Relief Valve, Steam	1,857.13	39.00

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 22 Steam and Condensate Piping and Pumps**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 22 16 00-0032		Bronze Body Safety Valve, Threaded, Water (23 22 16 00-0001)	
		Note: Variable set points to 160 psig pressure, 250 Degree F temperature range.	
23 22 16 00-0033	EA	3/4" x 3/4" Threaded Bronze Body Safety Relief Valve, Water	253.39 15.32
23 22 16 00-0034	EA	3/4" x 1" Threaded Bronze Body Safety Relief Valve, Water	288.95 16.71
23 22 16 00-0035	EA	1" x 1" Threaded Bronze Body Safety Relief Valve, Water	401.43 18.38
23 22 16 00-0036	EA	1" x 1-1/4" Threaded Bronze Body Safety Relief Valve, Water	442.11 19.78
23 22 16 00-0037	EA	1-1/4" x 1-1/4" Threaded Bronze Body Safety Relief Valve, Water	641.08 22.29
23 22 16 00-0038	EA	1-1/2" x 1-1/2" Threaded Bronze Body Safety Relief Valve, Water	865.71 26.46
23 22 16 00-0039	EA	2" x 2" Threaded Bronze Body Safety Relief Valve, Water	1,264.61 31.20
23 22 16 00-0040		Steam Temperature Regulator, Iron Body (23 22 16)	
23 22 16 00-0041		Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body (23 22 16 00-0040)	
		Note: Up to 150 PSI.	
23 22 16 00-0042	EA	1/2" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	1,344.97 16.04
23 22 16 00-0043	EA	3/4" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	1,414.62 21.61
23 22 16 00-0044	EA	1" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	1,877.57 26.63
23 22 16 00-0045	EA	1-1/4" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,072.71 33.65
23 22 16 00-0046	EA	1-1/2" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,126.29 38.66
23 22 16 00-0047	EA	2" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,512.95 42.07
23 22 16 00-0048	EA	2-1/2" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	3,196.22 77.06
23 22 16 00-0049	EA	3" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	4,158.57 84.03
23 22 16 00-0050	EA	4" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	6,083.46 196.70
23 22 16 00-0051	EA	6" Single Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	10,133.41 230.86
23 22 16 00-0052		Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body (23 22 16 00-0040)	
23 22 16 00-0053	EA	1/2" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	1,994.80 16.04
23 22 16 00-0054	EA	3/4" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,065.45 21.61
23 22 16 00-0055	EA	1" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,157.04 26.63
23 22 16 00-0056	EA	1-1/4" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,581.88 33.65
23 22 16 00-0057	EA	1-1/2" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,765.64 38.66
23 22 16 00-0058	EA	2" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	3,140.78 42.07
23 22 16 00-0059	EA	2-1/2" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	4,811.81 77.06
23 22 16 00-0060	EA	3" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	5,761.33 84.03
23 22 16 00-0061	EA	4" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	7,962.40 196.70
23 22 16 00-0062	EA	6" Single Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	12,874.96 230.86
23 22 16 00-0063		Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body (23 22 16 00-0040)	
23 22 16 00-0064	EA	1/2" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,719.34 16.04
23 22 16 00-0065	EA	3/4" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	2,758.37 21.61
23 22 16 00-0066	EA	1" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	3,018.43 26.63
23 22 16 00-0067	EA	1-1/4" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	3,286.32 33.65
23 22 16 00-0068	EA	1-1/2" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	3,404.99 38.66
23 22 16 00-0069	EA	2" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	3,841.41 42.07
23 22 16 00-0070	EA	2-1/2" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	7,108.85 77.06
23 22 16 00-0071	EA	3" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	8,163.37 84.03
23 22 16 00-0072	EA	4" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	10,314.25 196.70
23 22 16 00-0073	EA	6" Double Seated Spring Loaded Direct Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	14,473.51 230.86
23 22 16 00-0074		Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body (23 22 16 00-0040)	
23 22 16 00-0075	EA	1/2" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	3,485.03 16.04
23 22 16 00-0076	EA	3/4" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	3,520.24 21.61
23 22 16 00-0077	EA	1" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	3,822.39 26.63
23 22 16 00-0078	EA	1-1/4" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	3,983.06 33.65
23 22 16 00-0079	EA	1-1/2" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	4,136.20 38.66
23 22 16 00-0080	EA	2" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	4,503.72 42.07
23 22 16 00-0081	EA	2-1/2" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	7,491.69 77.06
23 22 16 00-0082	EA	3" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	8,581.84 84.03
23 22 16 00-0083	EA	4" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	10,732.73 196.70
23 22 16 00-0084	EA	6" Double Seated Spring Loaded Reverse Acting Diaphragm Valve, Steam Temperature Regulator, Iron Body	14,891.99 230.86
23 22 16 00-0085		Steam Traps (23 22 16)	
23 22 16 00-0086		Inverted Bucket Steam Traps (23 22 16 00-0085)	
23 22 16 00-0087	EA	1/2" 250 PSI Inverted Bucket Cast Iron Steam Trap	325.80 33.44
		For Work In Restricted Working Space, Add	
		20.06	
23 22 16 00-0088	EA	3/4" 250 PSI Inverted Bucket Cast Iron Steam Trap	328.58 34.83
		For Work In Restricted Working Space, Add	
		20.90	
23 22 16 00-0089	EA	1" 250 PSI Inverted Bucket Cast Iron Steam Trap	491.11 37.12
		For Work In Restricted Working Space, Add	
		22.29	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Steam and Condensate Piping and Pumps			23 22	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 22 16 00-0090	EA	1-1/4"	250 PSI Inverted Bucket Cast Iron Steam Trap..... <i>For Work In Restricted Working Space, Add</i>	795.99 30.40	50.66
23 22 16 00-0091	EA	1-1/2"	250 PSI Inverted Bucket Cast Iron Steam Trap..... <i>For Work In Restricted Working Space, Add</i>	1,187.32 37.15	62.42
23 22 16 00-0092	EA	2"	250 PSI Inverted Bucket Cast Iron Steam Trap..... <i>For Work In Restricted Working Space, Add</i>	1,512.74 55.73	92.89
23 22 16 00-0093 Float And Thermostatic Steam Traps (23 22 16 00-0085)					
23 22 16 00-0094	EA	3/4"	15 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	344.47 20.90	34.83
23 22 16 00-0095	EA	1"	15 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	455.31 22.29	37.15
23 22 16 00-0096	EA	1-1/4"	15 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	562.33 30.40	50.66
23 22 16 00-0097	EA	1-1/2"	15 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	825.45 37.16	61.92
23 22 16 00-0098	EA	2"	15 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	1,396.16 55.73	92.85
23 22 16 00-0099	EA	3/4"	30 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	440.14 20.90	34.83
23 22 16 00-0100	EA	1"	30 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	478.47 22.29	37.12
23 22 16 00-0101	EA	1-1/4"	30 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	625.47 30.40	50.66
23 22 16 00-0102	EA	1-1/2"	30 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	978.27 37.16	61.87
23 22 16 00-0103	EA	2"	30 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	1,537.20 55.73	92.88
23 22 16 00-0104	EA	3/4"	75 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	572.76 20.90	34.83
23 22 16 00-0105	EA	1"	75 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	638.45 22.29	37.15
23 22 16 00-0106	EA	1-1/4"	75 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	972.81 30.40	50.66
23 22 16 00-0107	EA	1-1/2"	75 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	1,169.63 37.16	61.87
23 22 16 00-0108	EA	2"	75 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	1,935.04 55.73	92.89
23 22 16 00-0109	EA	3/4"	150 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	581.18 20.90	34.83
23 22 16 00-0110	EA	1"	150 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	638.45 22.29	37.15
23 22 16 00-0111	EA	1-1/4"	150 PSI Max Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	972.81 30.40	50.66
23 22 16 00-0112	EA	1-1/2"	150 PSI Max Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	1,169.63 37.16	61.87
23 22 16 00-0113	EA	2"	150 PSI Maximum Pressure Float And Thermostatic Steam Trap <i>For Work In Restricted Working Space, Add</i>	1,935.04 55.73	92.88
23 22 16 00-0114 Thermostatic Steam Traps (23 22 16 00-0085)					
23 22 16 00-0115	EA	1/2"	25 PSI Maximum Pressure Thermostatic Steam Trap..... <i>For Work In Restricted Working Space, Add</i>	164.54 20.06	33.44
23 22 16 00-0116	EA	3/4"	25 PSI Maximum Pressure Thermostatic Steam Trap..... <i>For Work In Restricted Working Space, Add</i>	278.04 20.90	34.83
23 22 16 00-0117	EA	1"	25 PSI Maximum Pressure Thermostatic Steam Trap..... <i>For Work In Restricted Working Space, Add</i>	344.23 22.29	37.12
23 22 16 00-0118 Thermodynamic Steam Traps (23 22 16 00-0085)					
23 22 16 00-0119	EA	3/8"	600 PSI Maximum Pressure Thermodynamic Steam Trap.....	369.31	30.10
23 22 16 00-0120	EA	1/2"	600 PSI Maximum Pressure Thermodynamic Steam Trap.....	525.78	33.44
23 22 16 00-0121	EA	3/4"	600 PSI Maximum Pressure Thermodynamic Steam Trap.....	652.74	34.83
23 22 16 00-0122	EA	1"	600 PSI Maximum Pressure Thermodynamic Steam Trap.....	876.31	37.12
23 22 16 00-0123 Steam Moisture Separator (23 22 16 00-0085)					
23 22 16 00-0124	EA	1/2"	Steam Moisture Separator, Threaded (Spirax Sarco S1).....	792.53	55.73
23 22 16 00-0125	EA	3/4"	Steam Moisture Separator, Threaded (Spirax Sarco S1).....	836.53	75.24
23 22 16 00-0126	EA	1"	Steam Moisture Separator, Threaded (Spirax Sarco S1).....	1,008.61	84.72
23 22 16 00-0127	EA	1-1/2"	Steam Moisture Separator, Threaded (Spirax Sarco S2).....	1,603.76	96.97
23 22 16 00-0128	EA	2"	Steam Moisture Separator, Flanged (Spirax Sarco S3).....	1,957.50	148.59
23 22 16 00-0129	EA	2-1/2"	Steam Moisture Separator, Flanged (Spirax Sarco S3).....	2,958.19	161.63
23 22 16 00-0130	EA	3"	Steam Moisture Separator, Flanged (Spirax Sarco S3).....	3,373.97	189.49
23 22 16 00-0131	EA	4"	Steam Moisture Separator, Flanged (Spirax Sarco S3).....	4,665.55	317.68
23 22 16 00-0132	EA	6"	Steam Moisture Separator, Flanged (Spirax Sarco S3).....	9,157.01	401.28
23 22 16 00-0133 Steam/Condensate Meter (23 22 16)					
Note: Meter shall be of the rotary volumetric type and sized on the maximum estimated steam demand.					

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 22 Steam and Condensate Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 22 16 00-0134	EA	1" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	9,680.04 1,220.00 567.00 905.00 79.82 64.52	92.34
23 22 16 00-0135	EA	2" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	10,917.31 1,220.00 567.00 905.00 79.82 64.52	108.51
23 22 16 00-0136	EA	2-1/2" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	11,560.06 1,220.00 567.00 905.00 79.82 64.52	134.66
23 22 16 00-0137	EA	3" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	12,224.36 1,220.00 567.00 905.00 79.82 64.52	177.00
23 22 16 00-0138	EA	4" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	13,705.45 1,220.00 567.00 905.00 79.82 64.52	274.98
23 22 16 00-0139	EA	6" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	23,596.23 1,220.00 567.00 905.00 79.82 64.52	347.83
23 22 16 00-0140	EA	8" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	24,359.96 1,220.00 567.00 905.00 79.82 64.52	439.15
23 22 16 00-0141	EA	10" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	25,404.10 1,220.00 567.00 905.00 79.82 64.52	538.68
23 22 16 00-0142	EA	12" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	26,537.34 1,220.00 567.00 905.00 79.82 64.52	654.11
23 22 16 00-0143	EA	14" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	28,177.12 1,220.00 567.00 905.00 79.82 64.52	769.53
23 22 16 00-0144	EA	16" Steam/Condensate Meter..... For Steam Meter Pressure-Compensated Counter, Add For Contactor Used For Dial Counter, Add For Wall Or Panel Mounted Remote Totalizer With Contactor, Add For Direct Reading Pressure Gauge, Add For Direct Reading Thermometer, Stainless Steel Case With Trim, Add	29,123.99 1,220.00 567.00 905.00 79.82 64.52	846.49

23 22 23 Steam Condensate Pumps (23 22)**23 22 23 13 Electric-Driven Steam Condensate Pumps (23 22 23)****23 22 23 13-0001 Simplex Condensate Pumps And Motors (23 22 23 13)**

Note: Cast iron receiver, float switch.

23 22 23 13-0002 20 PSI Discharge Pressure (23 22 23 13-0001)

23 22 23 13-0003	EA	3 To 6 GPM Simplex Condensate Pump And 1/3 HP Motor With 6 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	1,892.20	522.56
23 22 23 13-0004	EA	9 To 12 GPM Simplex Condensate Pump And 1/3 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	2,407.94	536.93
23 22 23 13-0005	EA	15 GPM Simplex Condensate Pump And 1/2 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	2,520.23	572.86
23 22 23 13-0006	EA	22.5 GPM Simplex Condensate Pump And 1/2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	2,766.53	579.02
23 22 23 13-0007	EA	30 GPM Simplex Condensate Pump And 3/4 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure	3,088.39	630.35



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Piping and Pumps			23 20	
Steam and Condensate Piping and Pumps			23 22	

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 22 23 13-0008	EA	37.5 GPM Simplex Condensate Pump And 3/4 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		4,489.66	630.35
23 22 23 13-0009	EA	45 GPM Simplex Condensate Pump And 1 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		4,569.74	673.47
23 22 23 13-0010	EA	60 GPM Simplex Condensate Pump And 1-1/2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		5,554.19	704.27
23 22 23 13-0011	EA	75 GPM Simplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		5,614.86	735.07
23 22 23 13-0012		30 PSI Discharge Pressure (23 22 23 13-0001)			
23 22 23 13-0013	EA	3 To 6 GPM Simplex Condensate Pump And 1/2 HP Motor With 6 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure		2,164.76	558.48
23 22 23 13-0014	EA	9 To 12 GPM Simplex Condensate Pump And 1/2 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure		2,794.03	572.86
23 22 23 13-0015	EA	15 GPM Simplex Condensate Pump And 3/4 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure		2,903.91	610.85
23 22 23 13-0016	EA	22.5 GPM Simplex Condensate Pump And 1 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure		3,350.51	660.12
23 22 23 13-0017	EA	30 To 37.5 GPM Simplex Condensate Pump And 1 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure		4,569.74	674.50
23 22 23 13-0018	EA	45 GPM Simplex Condensate Pump And 1-1/2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure		4,696.94	698.11
23 22 23 13-0019	EA	60 GPM Simplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure		4,842.44	735.07
23 22 23 13-0020	EA	75 GPM Simplex Condensate Pump And 3 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure		5,605.48	782.29
23 22 23 13-0021		40 PSI Discharge Pressure (23 22 23 13-0001)			
23 22 23 13-0022	EA	3 To 6 GPM Simplex Condensate Pump And 1 HP Motor With 6 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure		2,415.96	640.61
23 22 23 13-0023	EA	9 To 15 GPM Simplex Condensate Pump And 1 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure		3,028.51	691.95
23 22 23 13-0024	EA	22.5 GPM Simplex Condensate Pump And 1-1/2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure		3,533.36	683.74
23 22 23 13-0025	EA	30 To 37.5 GPM Simplex Condensate Pump And 1-1/2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure		4,674.68	698.11
23 22 23 13-0026	EA	45 GPM Simplex Condensate Pump And 2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure		4,776.53	727.89
23 22 23 13-0027	EA	60 GPM Simplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure		5,614.86	735.07
23 22 23 13-0028	EA	75 GPM Simplex Condensate Pump And 3 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure		5,700.09	782.29
23 22 23 13-0029		50 PSI Discharge Pressure (23 22 23 13-0001)			
23 22 23 13-0030	EA	3 To 6 GPM Simplex Condensate Pump And 2 HP Motor With 6 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure		4,463.64	694.00
23 22 23 13-0031	EA	9 To 15 GPM Simplex Condensate Pump And 2 HP Motor With 13.6 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure		3,268.69	708.38
23 22 23 13-0032	EA	22.5 GPM Simplex Condensate Pump And 2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure		3,738.72	713.51
23 22 23 13-0033	EA	30 To 45 GPM Simplex Condensate Pump And 3 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure		4,860.63	776.13
23 22 23 13-0034	EA	60 To 75 GPM Simplex Condensate Pump And 5 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure		7,600.86	836.71
23 22 23 13-0035		Duplex Condensate Pumps And Motors (23 22 23 13)			
		Note: Cast iron receiver, float switch, alternator assembly.			
23 22 23 13-0036		20 PSI Discharge Pressure (23 22 23 13-0035)			
23 22 23 13-0037	EA	9 To 12 GPM Duplex Condensate Pump And 1/3 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		3,093.78	701.19
23 22 23 13-0038	EA	15 GPM Duplex Condensate Pump And 1/2 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		3,283.19	769.97
23 22 23 13-0039	EA	22.5 GPM Duplex Condensate Pump And 1/2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		3,576.23	776.13
23 22 23 13-0040	EA	30 GPM Duplex Condensate Pump And 3/4 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		3,992.51	845.94
23 22 23 13-0041	EA	37.5 GPM Duplex Condensate Pump And 3/4 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		5,505.08	845.94
23 22 23 13-0042	EA	45 GPM Duplex Condensate Pump And 1 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		5,619.12	911.65
23 22 23 13-0043	EA	60 GPM Duplex Condensate Pump And 1-1/2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		6,633.44	951.69
23 22 23 13-0044	EA	75 GPM Duplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 20 PSI Discharge Pressure		6,802.14	998.91
23 22 23 13-0045		30 PSI Discharge Pressure (23 22 23 13-0035)			

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 22 Steam and Condensate Piping and Pumps**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 22 23 13-0046	EA	9 To 12 GPM Duplex Condensate Pump And 1/2 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	3,981.73	755.60
23 22 23 13-0047	EA	15 GPM Duplex Condensate Pump And 3/4 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	4,175.31	825.41
23 22 23 13-0048	EA	22.5 GPM Duplex Condensate Pump And 1 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	4,618.04	804.88
23 22 23 13-0049	EA	30 To 37.5 GPM Duplex Condensate Pump And 1 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	5,619.12	911.65
23 22 23 13-0050	EA	45 GPM Duplex Condensate Pump And 1-1/2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	5,780.64	945.52
23 22 23 13-0051	EA	60 GPM Duplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	6,579.54	998.91
23 22 23 13-0052	EA	75 GPM Duplex Condensate Pump And 3 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 30 PSI Discharge Pressure	6,909.93	1,070.78
23 22 23 13-0053		40 PSI Discharge Pressure (23 22 23 13-0035)		
23 22 23 13-0054	EA	9 To 15 GPM Duplex Condensate Pump And 1 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	4,333.89	891.12
23 22 23 13-0055	EA	22.5 GPM Duplex Condensate Pump And 1-1/2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	4,777.33	931.16
23 22 23 13-0056	EA	30 To 37.5 GPM Duplex Condensate Pump And 1-1/2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	5,794.00	945.52
23 22 23 13-0057	EA	45 GPM Duplex Condensate Pump And 2 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	5,963.81	992.75
23 22 23 13-0058	EA	60 GPM Duplex Condensate Pump And 2 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	6,803.26	998.91
23 22 23 13-0059	EA	75 GPM Duplex Condensate Pump And 3 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 40 PSI Discharge Pressure	6,936.65	1,070.78
23 22 23 13-0060		50 PSI Discharge Pressure (23 22 23 13-0035)		
23 22 23 13-0061	EA	9 To 15 GPM Duplex Condensate Pump And 2 HP Motor With 13.5 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure	4,518.65	891.12
23 22 23 13-0062	EA	22.5 GPM Duplex Condensate Pump And 2 HP Motor With 21 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure	4,880.37	979.40
23 22 23 13-0063	EA	30 To 45 GPM Duplex Condensate Pump And 3 HP Motor With 36 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure	6,098.31	1,063.59
23 22 23 13-0064	EA	60 To 75 GPM Duplex Condensate Pump And 5 HP Motor With 50 Gallon Cast Iron Receiver, Float Switch, 50 PSI Discharge Pressure	10,477.87	1,151.88
23 23 Refrigerant Piping (23 20)				
23 23 13 Refrigerant Piping Valves (23 23)				
23 23 13 00-0001		Ball Valves (23 23 13)		
23 23 13 00-0002		Refrigeration Ball Valves, Sweat, 1400 Series (23 23 13 00-0001)		
23 23 13 00-0003	EA	3/8" Refrigeration Ball Valve, Sweated	45.97	11.14
23 23 13 00-0004	EA	1/2" Refrigeration Ball Valve, Sweated	47.77	11.14
23 23 13 00-0005	EA	5/8" Refrigeration Ball Valve, Sweated	65.06	11.14
23 23 13 00-0006	EA	7/8" Refrigeration Ball Valve, Sweated	87.08	12.26
23 23 13 00-0007	EA	1-1/8" Refrigeration Ball Valve, Sweated	122.71	13.93
23 23 13 00-0008	EA	1-5/8" Refrigeration Ball Valve, Sweated	200.65	17.16
23 23 13 00-0009		Shut-Off Valves (23 23 13)		
23 23 13 00-0010		Packless (23 23 13 00-0009)		
23 23 13 00-0011	EA	1/2" Refrigeration Valve, Packless	63.04	11.60
23 23 13 00-0012	EA	5/8" Refrigeration Valve, Packless	79.11	12.71
23 23 13 00-0013	EA	7/8" Refrigeration Valve, Packless	163.55	17.39
23 23 13 00-0014		Packed (23 23 13 00-0009)		
23 23 13 00-0015	EA	1-1/8" Refrigeration Valve, Packed	291.46	25.30
23 23 13 00-0016	EA	1 3/8" Refrigeration Valve, Packed	390.12	30.98
23 23 13 00-0017	EA	1-5/8" Refrigeration Valve, Packed	475.68	34.89
23 23 13 00-0018	EA	2-1/8" Refrigeration Valve, Packed	681.24	39.79
23 23 13 00-0019	EA	2-5/8" Refrigeration Valve, Packed	1,123.15	111.47
23 23 13 00-0020	EA	3-1/8" Refrigeration Valve, Packed	1,474.93	139.33
23 23 13 00-0021	EA	4-1/8" Refrigeration Valve, Packed	2,099.33	185.81
23 23 13 00-0022		Check Valves (23 23 13)		
23 23 13 00-0023	EA	5/8" Check Valve, Refrigeration	79.17	11.14
23 23 13 00-0024	EA	7/8" Check Valve, Refrigeration	255.03	12.26
23 23 13 00-0025	EA	1-1/8" Check Valve, Refrigeration	295.59	13.93
23 23 13 00-0026	EA	1 3/8" Check Valve, Refrigeration	398.45	14.82
23 23 13 00-0027	EA	1-5/8" Check Valve, Refrigeration	525.53	17.17
23 23 13 00-0028	EA	2-1/8" Check Valve, Refrigeration	781.26	20.28



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Piping and Pumps

23 20

Refrigerant Piping

23 23



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 23 13 00-0029 EA 2-5/8" Check Valve, Refrigeration.....	1,093.26	29.76
23 23 13 00-0030 EA 3-1/8" Check Valve, Refrigeration.....	1,448.24	39.01
23 23 13 00-0031 Solenoid Valves (23 23 13)		
23 23 13 00-0032 Solenoid Valve, 24 Volt Coil (23 23 13 00-0031)		
23 23 13 00-0033 EA 1/2" Solenoid Valve, Refrigeration.....	217.87	11.14
23 23 13 00-0034 EA 5/8" Solenoid Valve, Refrigeration.....	223.16	11.14
23 23 13 00-0035 EA 3/4" Solenoid Valve, Refrigeration.....	275.67	12.26
23 23 13 00-0036 EA 7/8" Solenoid Valve, Refrigeration.....	275.67	12.26
23 23 13 00-0037 EA 1-1/8" Solenoid Valve, Refrigeration.....	386.48	13.93
23 23 13 00-0038 EA 1 3/8" Solenoid Valve, Refrigeration.....	621.55	14.82
23 23 13 00-0039 EA 1-5/8" Solenoid Valve, Refrigeration.....	1,147.17	17.17
23 23 13 00-0040 EA 2-1/8" Solenoid Valve, Refrigeration.....	1,192.75	20.28
23 23 16 Refrigerant Piping Specialties (23 23)		
23 23 16 00-0001 Soft Refrigeration Copper Tubing (23 23 16)		
Note: Based on outside diameter. Nitrogenized. Lengths up to 100'. See CSI section 22 07 19 00-0375 for flexible elastomeric insulation (insulation on suction line only).		
23 23 16 00-0002 LF 1/8" Outside Diameter Soft Refrigeration Copper Tubing.....	4.73	2.65
23 23 16 00-0003 LF 3/16" Outside Diameter Soft Refrigeration Copper Tubing.....	4.97	2.72
23 23 16 00-0004 LF 1/4" Outside Diameter Soft Refrigeration Copper Tubing.....	5.20	2.80
23 23 16 00-0005 LF 5/16" Outside Diameter Soft Refrigeration Copper Tubing.....	5.61	2.84
23 23 16 00-0006 LF 3/8" Outside Diameter Soft Refrigeration Copper Tubing.....	5.79	2.89
23 23 16 00-0007 LF 1/2" Outside Diameter Soft Refrigeration Copper Tubing.....	6.55	3.03
23 23 16 00-0008 LF 5/8" Outside Diameter Soft Refrigeration Copper Tubing.....	7.25	3.06
23 23 16 00-0009 LF 3/4" Outside Diameter Soft Refrigeration Copper Tubing.....	7.97	3.17
23 23 16 00-0010 LF 7/8" Outside Diameter Soft Refrigeration Copper Tubing.....	10.35	3.72
23 23 16 00-0011 LF 1-1/8" Outside Diameter Soft Refrigeration Copper Tubing.....	13.25	4.27
23 23 16 00-0012 LF 1-3/8" Outside Diameter Soft Refrigeration Copper Tubing.....	19.36	5.05
23 23 16 00-0013 LF 1-5/8" Outside Diameter Soft Refrigeration Copper Tubing.....	23.43	5.65
23 23 16 00-0014 Refrigeration Copper Tubing Assembly (23 23 16)		
Note: Based on outside diameter. Nitrogenized. Includes pipe, 1/2" thick flexible elastomeric foam insulation, coupling fittings and fastener straps. See CSI section 22 07 19 00-0375 for flexible elastomeric insulation (insulation on suction line only).		
23 23 16 00-0015 LF 1/4" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation.....	8.24	3.00
23 23 16 00-0016 LF 5/16" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation.....	8.63	3.04
23 23 16 00-0017 LF 3/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation.....	8.77	3.12
23 23 16 00-0018 LF 1/2" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation.....	9.78	3.35
23 23 16 00-0019 LF 5/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation.....	10.66	3.35
23 23 16 00-0020 LF 3/4" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation.....	12.22	3.90
23 23 16 00-0021 LF 7/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation.....	14.35	4.12
23 23 16 00-0022 LF 1-1/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation.....	18.30	5.02
23 23 16 00-0023 LF 1-3/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation.....	24.90	5.79
23 23 16 00-0024 LF 1-5/8" Outside Diameter, Soft Refrigeration Copper Tubing With 1/2" Elastomeric Insulation.....	29.47	6.25
23 23 16 00-0025 Type L Drawn, ACR Copper Tubing (23 23 16)		
Note: Nitrogenized. Lengths up to 20'. See CSI section 22 07 19 00-0375 for flexible elastomeric insulation (insulation on suction line only).		
23 23 16 00-0026 LF 3/8" Outside Diameter Type L Drawn, ACR Copper Tubing.....	6.41	3.12
For Medical Applications "Oxygen Clean", Add	0.56	
23 23 16 00-0027 LF 1/2" Outside Diameter Type L Drawn, ACR Copper Tubing.....	7.28	3.12
For Medical Applications "Oxygen Clean", Add	0.60	
23 23 16 00-0028 LF 5/8" Outside Diameter Type L Drawn, ACR Copper Tubing.....	7.82	3.12
For Medical Applications "Oxygen Clean", Add	0.63	
23 23 16 00-0029 LF 3/4" Outside Diameter Type L Drawn, ACR Copper Tubing.....	11.29	4.69
For Medical Applications "Oxygen Clean", Add	0.91	
23 23 16 00-0030 LF 7/8" Outside Diameter Type L Drawn, ACR Copper Tubing.....	12.34	5.02
For Medical Applications "Oxygen Clean", Add	0.99	
23 23 16 00-0031 LF 1-1/8" Outside Diameter Type L Drawn, ACR Copper Tubing.....	14.51	5.02
For Medical Applications "Oxygen Clean", Add	1.10	
23 23 16 00-0032 LF 1-3/8" Outside Diameter Type L Drawn, ACR Copper Tubing.....	18.14	5.79
For Medical Applications "Oxygen Clean", Add	1.35	
23 23 16 00-0033 LF 1-5/8" Outside Diameter Type L Drawn, ACR Copper Tubing.....	22.04	6.69
For Medical Applications "Oxygen Clean", Add	1.60	
23 23 16 00-0034 LF 2-1/8" Outside Diameter Type L Drawn, ACR Copper Tubing.....	31.38	8.36
For Medical Applications "Oxygen Clean", Add	2.20	
23 23 16 00-0035 LF 2-5/8" Outside Diameter Type L Drawn, ACR Copper Tubing.....	47.05	12.59
For Medical Applications "Oxygen Clean", Add	3.30	
23 23 16 00-0036 LF 3-1/8" Outside Diameter Type L Drawn, ACR Copper Tubing.....	61.01	15.61
For Medical Applications "Oxygen Clean", Add	4.22	
23 23 16 00-0037 LF 3-5/8" Outside Diameter Type L Drawn, ACR Copper Tubing.....	76.96	18.49
For Medical Applications "Oxygen Clean", Add	5.24	
23 23 16 00-0038 LF 4-1/8" Outside Diameter Type L Drawn, ACR Copper Tubing.....	95.26	22.30
For Medical Applications "Oxygen Clean", Add	6.44	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 23 Refrigerant Piping**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 23 16 00-0039	Refrigeration Fittings (23 23 16)		
23 23 16 00-0040	Brass Flare Fittings (23 23 16 00-0039)		
23 23 16 00-0041	Brass Flare Unions (23 23 16 00-0040)		
23 23 16 00-0042	EA 3/8" Brass Flare Union	26.46	12.04
23 23 16 00-0043	EA 1/2" Brass Flare Union	26.46	12.04
23 23 16 00-0044	EA 5/8" Brass Flare Union	28.64	12.04
23 23 16 00-0045	90 Degree Elbow Brass Flare Unions (23 23 16 00-0040)		
23 23 16 00-0046	EA 3/8" 90 Degree Brass Flare Elbow Union	27.78	12.04
23 23 16 00-0047	EA 1/2" 90 Degree Brass Flare Elbow Union	27.78	12.04
23 23 16 00-0048	EA 5/8" 90 Degree Brass Flare Elbow Union	35.10	12.04
23 23 16 00-0049	Brass Flare Tees (23 23 16 00-0040)		
23 23 16 00-0050	EA 3/8" Brass Flare Tee	42.57	20.05
23 23 16 00-0051	EA 1/2" Brass Flare Tee	45.83	20.05
23 23 16 00-0052	EA 5/8" Brass Flare Tee	63.58	20.05
23 23 16 00-0053	Male Connector, Half Brass Flare Unions (23 23 16 00-0040)		
23 23 16 00-0054	EA 3/8" Brass Flare Male Connector, Half Union	20.46	12.04
23 23 16 00-0055	EA 1/2" Brass Flare Male Connector, Half Union	22.64	12.04
23 23 16 00-0056	EA 5/8" Brass Flare Male Connector, Half Union	25.75	12.04
23 23 16 00-0057	Female Connector, Half Brass Flare Unions (23 23 16 00-0040)		
23 23 16 00-0058	EA 3/8" Brass Flare Female Connector, Half Union	23.27	12.04
23 23 16 00-0059	EA 1/2" Brass Flare Female Connector, Half Union	26.23	12.04
23 23 16 00-0060	EA 5/8" Brass Flare Female Connector, Half Union	26.23	12.04
23 23 16 00-0061	Long Forged Nuts (23 23 16 00-0040)		
23 23 16 00-0062	EA 3/8" Brass Long Forged Nut	21.79	12.04
23 23 16 00-0063	EA 1/2" Brass Long Forged Nut	22.64	12.04
23 23 16 00-0064	EA 5/8" Brass Long Forged Nut	32.13	12.04
23 23 16 00-0065	Short Forged Nuts (23 23 16 00-0040)		
23 23 16 00-0066	EA 3/8" Brass Short Forged Nut	20.55	12.04
23 23 16 00-0067	EA 1/2" Brass Short Forged Nut	22.52	12.04
23 23 16 00-0068	EA 5/8" Brass Short Forged Nut	22.93	12.04
23 23 16 00-0069	ACR Wrought Copper Fittings (23 23 16 00-0039)		
Note: Soldered.			
23 23 16 00-0070	ACR Wrought Copper Coupling (23 23 16 00-0069)		
Note: C x C			
23 23 16 00-0071	EA 1/4" ACR Wrought Copper Coupling	19.95	12.04
23 23 16 00-0072	EA 3/8" ACR Wrought Copper Coupling	19.60	12.04
23 23 16 00-0073	EA 1/2" ACR Wrought Copper Coupling	20.12	12.04
23 23 16 00-0074	EA 5/8" ACR Wrought Copper Coupling	20.69	12.59
23 23 16 00-0075	EA 3/4" ACR Wrought Copper Coupling	29.66	16.60
23 23 16 00-0076	EA 7/8" ACR Wrought Copper Coupling	29.11	17.06
23 23 16 00-0077	EA 1-1/8" ACR Wrought Copper Coupling	38.84	21.18
23 23 16 00-0078	EA 1-3/8" ACR Wrought Copper Coupling	55.98	28.98
23 23 16 00-0079	EA 1-5/8" ACR Wrought Copper Coupling	67.56	34.00
23 23 16 00-0080	EA 2-1/8" ACR Wrought Copper Coupling	89.39	41.24
23 23 16 00-0081	EA 2-5/8" ACR Wrought Copper Coupling	156.07	62.64
23 23 16 00-0082	EA 3-1/8" ACR Wrought Copper Coupling	208.26	82.37
23 23 16 00-0083	EA 4-1/8" ACR Wrought Copper Coupling	339.37	97.87
23 23 16 00-0084	ACR Wrought Copper Short Radius 90 Degree Elbows (23 23 16 00-0069)		
Note: C x C			
23 23 16 00-0085	EA 1/4" ACR Wrought Copper Short Radius 90 Degree Elbow	24.64	12.04
23 23 16 00-0086	EA 3/8" ACR Wrought Copper Short Radius 90 Degree Elbow	24.99	12.04
23 23 16 00-0087	EA 1/2" ACR Wrought Copper Short Radius 90 Degree Elbow	24.64	12.04
23 23 16 00-0088	EA 5/8" ACR Wrought Copper Short Radius 90 Degree Elbow	26.78	12.59
23 23 16 00-0089	EA 3/4" ACR Wrought Copper Short Radius 90 Degree Elbow	39.23	16.60
23 23 16 00-0090	EA 7/8" ACR Wrought Copper Short Radius 90 Degree Elbow	39.72	17.06
23 23 16 00-0091	EA 1-1/8" ACR Wrought Copper Short Radius 90 Degree Elbow	50.68	21.18
23 23 16 00-0092	EA 1-3/8" ACR Wrought Copper Short Radius 90 Degree Elbow	62.80	28.98
23 23 16 00-0093	EA 1-5/8" ACR Wrought Copper Short Radius 90 Degree Elbow	81.17	34.00
23 23 16 00-0094	EA 2-1/8" ACR Wrought Copper Short Radius 90 Degree Elbow	116.73	41.24
23 23 16 00-0095	EA 2-5/8" ACR Wrought Copper Short Radius 90 Degree Elbow	203.85	62.64
23 23 16 00-0096	EA 3-1/8" ACR Wrought Copper Short Radius 90 Degree Elbow	261.70	82.37



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 23 16 00-0097	EA	4-1/8" ACR Wrought Copper Short Radius 90 Degree Elbow	500.37	97.87
23 23 16 00-0098		ACR Wrought Copper Long Radius 90 Degree Elbows (23 23 16 00-0069) Note: C x C		
23 23 16 00-0099	EA	1/4" ACR Wrought Copper Long Radius 90 Degree Elbow	30.50	12.04
23 23 16 00-0100	EA	3/8" ACR Wrought Copper Long Radius 90 Degree Elbow	27.40	12.04
23 23 16 00-0101	EA	1/2" ACR Wrought Copper Long Radius 90 Degree Elbow	29.86	12.04
23 23 16 00-0102	EA	5/8" ACR Wrought Copper Long Radius 90 Degree Elbow	29.60	12.59
23 23 16 00-0103	EA	3/4" ACR Wrought Copper Long Radius 90 Degree Elbow	35.78	16.60
23 23 16 00-0104	EA	7/8" ACR Wrought Copper Long Radius 90 Degree Elbow	39.35	17.06
23 23 16 00-0105	EA	1-1/8" ACR Wrought Copper Long Radius 90 Degree Elbow	53.93	21.18
23 23 16 00-0106	EA	1-3/8" ACR Wrought Copper Long Radius 90 Degree Elbow	79.51	28.98
23 23 16 00-0107	EA	1-5/8" ACR Wrought Copper Long Radius 90 Degree Elbow	99.41	34.00
23 23 16 00-0108	EA	2-1/8" ACR Wrought Copper Long Radius 90 Degree Elbow	189.11	41.24
23 23 16 00-0109	EA	2-5/8" ACR Wrought Copper Long Radius 90 Degree Elbow	295.47	62.64
23 23 16 00-0110	EA	3-1/8" ACR Wrought Copper Long Radius 90 Degree Elbow	390.44	82.37
23 23 16 00-0111	EA	4-1/8" ACR Wrought Copper Long Radius 90 Degree Elbow	861.72	97.87
23 23 16 00-0112		ACR Wrought Copper 45 Degree Elbow (23 23 16 00-0069) Note: C x C		
23 23 16 00-0113	EA	1/4" ACR Wrought Copper 45 Degree Elbow	34.76	12.04
23 23 16 00-0114	EA	3/8" ACR Wrought Copper 45 Degree Elbow	30.50	12.04
23 23 16 00-0115	EA	1/2" ACR Wrought Copper 45 Degree Elbow	28.69	12.04
23 23 16 00-0116	EA	5/8" ACR Wrought Copper 45 Degree Elbow	23.24	12.59
23 23 16 00-0117	EA	3/4" ACR Wrought Copper 45 Degree Elbow	43.76	16.60
23 23 16 00-0118	EA	7/8" ACR Wrought Copper 45 Degree Elbow	33.08	17.06
23 23 16 00-0119	EA	1-1/8" ACR Wrought Copper 45 Degree Elbow	50.64	21.18
23 23 16 00-0120	EA	1-3/8" ACR Wrought Copper 45 Degree Elbow	68.81	28.98
23 23 16 00-0121	EA	1-5/8" ACR Wrought Copper 45 Degree Elbow	81.55	34.00
23 23 16 00-0122	EA	2-1/8" ACR Wrought Copper 45 Degree Elbow	112.76	41.24
23 23 16 00-0123	EA	2-5/8" ACR Wrought Copper 45 Degree Elbow	202.52	62.64
23 23 16 00-0124	EA	3-1/8" ACR Wrought Copper 45 Degree Elbow	275.12	82.37
23 23 16 00-0125	EA	4-1/8" ACR Wrought Copper 45 Degree Elbow	469.69	97.87
23 23 16 00-0126		ACR Wrought Copper Tee (23 23 16 00-0069) Note: C x C x C		
23 23 16 00-0127	EA	1/4" ACR Wrought Copper Tee	43.40	20.05
23 23 16 00-0128	EA	3/8" ACR Wrought Copper Tee	44.15	20.05
23 23 16 00-0129	EA	1/2" ACR Wrought Copper Tee	41.37	20.05
23 23 16 00-0130	EA	5/8" ACR Wrought Copper Tee	41.85	25.30
23 23 16 00-0131	EA	3/4" ACR Wrought Copper Tee	63.64	25.30
23 23 16 00-0132	EA	7/8" ACR Wrought Copper Tee	48.10	25.63
23 23 16 00-0133	EA	1-1/8" ACR Wrought Copper Tee	80.88	34.00
23 23 16 00-0134	EA	1-3/8" ACR Wrought Copper Tee	102.17	41.24
23 23 16 00-0135	EA	1-5/8" ACR Wrought Copper Tee	135.64	48.93
23 23 16 00-0136	EA	2-1/8" ACR Wrought Copper Tee	194.94	65.21
23 23 16 00-0137	EA	2-5/8" ACR Wrought Copper Tee	409.38	142.34
23 23 16 00-0138	EA	3-1/8" ACR Wrought Copper Tee	515.92	156.50
23 23 16 00-0139	EA	4-1/8" ACR Wrought Copper Tee	941.43	173.89
23 23 16 00-0140		ACR Wrought Copper Male Adapter (23 23 16 00-0069) Note: C x M		
23 23 16 00-0141	EA	1/4" ACR Wrought Copper Male Adapter	38.99	12.04
23 23 16 00-0142	EA	3/8" ACR Wrought Copper Male Adapter	45.80	12.04
23 23 16 00-0143	EA	1/2" ACR Wrought Copper Male Adapter	34.49	12.04
23 23 16 00-0144		ACR Wrought Copper Female Adapter (23 23 16 00-0069) Note: C x F		
23 23 16 00-0145	EA	1/4" ACR Wrought Copper Female Adapter	36.32	12.04
23 23 16 00-0146	EA	3/8" ACR Wrought Copper Female Adapter	32.41	12.04
23 23 16 00-0147	EA	1/2" ACR Wrought Copper Female Adapter	33.89	12.04
23 23 16 00-0148		ACR Wrought Copper Cap (23 23 16 00-0069) Note: C		
23 23 16 00-0149	EA	1/4" ACR Wrought Copper Cap	15.27	8.03
23 23 16 00-0150	EA	3/8" ACR Wrought Copper Cap	14.04	8.03
23 23 16 00-0151	EA	1/2" ACR Wrought Copper Cap	15.24	8.03
23 23 16 00-0152		ACR Wrought Copper P-Trap (23 23 16 00-0069)		
23 23 16 00-0153	EA	5/8" ACR Wrought Copper P-Trap	108.77	10.26
23 23 16 00-0154	EA	3/4" ACR Wrought Copper P-Trap	150.09	11.29
23 23 16 00-0155	EA	7/8" ACR Wrought Copper P-Trap	127.61	11.29
23 23 16 00-0156	EA	1-1/8" ACR Wrought Copper P-Trap	176.66	12.32
23 23 16 00-0157	EA	1-3/8" ACR Wrought Copper P-Trap	308.63	12.32

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 23 Refrigerant Piping**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 23 16 00-0158 EA 1-5/8" ACR Wrought Copper P-Trap.....	440.95	13.35
23 23 16 00-0159 EA 2-1/8" ACR Wrought Copper P-Trap.....	815.83	14.38
23 23 16 00-0160 Sight Glass With Moisture And Liquid Indicator, Solder Connection (23 23 16)		
23 23 16 00-0161 EA 1/4" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection.....	58.50	15.40
23 23 16 00-0162 EA 3/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection.....	71.07	18.48
23 23 16 00-0163 EA 1/2" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection.....	85.96	22.58
23 23 16 00-0164 EA 5/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection.....	94.32	25.67
23 23 16 00-0165 EA 7/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection.....	127.66	32.85
23 23 16 00-0166 EA 1-1/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	147.25	40.04
23 23 16 00-0167 EA 1-3/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	229.76	47.23
23 23 16 00-0168 EA 1-5/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	282.16	64.68
23 23 16 00-0169 EA 2-1/8" Outside Diameter Sight Glass With Moisture And Liquid Indicator, Solder Connection	345.15	80.07
23 23 16 00-0170 Filter Driers, Solder Connections (23 23 16)		
23 23 16 00-0171 Replaceable Core Type Filter Driers, Solder Connections (23 23 16 00-0170)		
23 23 16 00-0172 EA 5/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	540.63	9.24
23 23 16 00-0173 EA 7/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	541.24	11.29
23 23 16 00-0174 EA 1-1/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	690.92	11.29
23 23 16 00-0175 EA 1-3/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	685.78	12.32
23 23 16 00-0176 EA 1-5/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	761.97	13.35
23 23 16 00-0177 EA 2-1/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	853.74	14.38
23 23 16 00-0178 EA 2-5/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	996.77	15.40
23 23 16 00-0179 EA 3-1/8" Outside Diameter Replaceable Core Type Filter Drier, Solder Connections	1,244.34	15.40
23 23 16 00-0180 Sealed In-Line Filter Driers, Solder Connections (23 23 16 00-0170)		
23 23 16 00-0181 EA 1/4" Outside Diameter, 1/4 To 1 Ton, Sealed In-Line Filter Drier, Solder Connections.....	84.15	9.24
23 23 16 00-0182 EA 3/8" Outside Diameter, 1/2 To 2 Ton, Sealed In-Line Filter Drier, Solder Connections.....	107.51	9.24
23 23 16 00-0183 EA 1/2" Outside Diameter, 1 To 7 Ton, Sealed In-Line Filter Drier, Solder Connections.....	137.36	10.26
23 23 16 00-0184 EA 1/2" Outside Diameter, 2 To 7-1/2 Ton, Sealed In-Line Filter Drier, Solder Connections	159.34	10.26
23 23 16 00-0185 EA 5/8" Outside Diameter, 2 To 10 Ton, Sealed In-Line Filter Drier, Solder Connections.....	175.05	10.26
23 23 16 00-0186 EA 5/8" Outside Diameter, 4 To 8 Ton, Sealed In-Line Filter Drier, Solder Connections.....	203.43	10.26
23 23 16 00-0187 EA 7/8" Outside Diameter, 5 To 20 Ton, Sealed In-Line Filter Drier, Solder Connections.....	228.81	11.29
23 23 16 00-0188 EA 7/8" Outside Diameter, 7-1/2 To 20 Ton, Sealed In-Line Filter Drier, Solder Connections	341.31	11.29
23 23 16 00-0189 EA 1-1/8" Outside Diameter, 15 To 25 Ton, Sealed In-Line Filter Drier, Solder Connections	370.73	11.29
23 23 16 00-0190 Bi-Flow Filter Driers, Solder Connections (23 23 16 00-0170)		
23 23 16 00-0191 EA 1/4" Outside Diameter, 1 To 3-1/2 Ton, Bi-Flow Filter Drier, Solder Connections.....	119.37	9.24
23 23 16 00-0192 EA 3/8" Outside Diameter, 1 To 3-1/2 Ton, Bi-Flow Filter Drier, Solder Connections.....	132.58	9.24
23 23 16 00-0193 EA 1/2" Outside Diameter, 1 To 3-1/2 Ton, Bi-Flow Filter Drier, Solder Connections.....	157.87	10.26
23 23 16 00-0194 EA 3/8" Outside Diameter, 1 To 8 Ton, Bi-Flow Filter Drier, Solder Connections.....	142.52	9.24
23 23 16 00-0195 EA 1/2" Outside Diameter, 1 To 8 Ton, Bi-Flow Filter Drier, Solder Connections.....	178.38	10.26
23 23 16 00-0196 EA 5/8" Outside Diameter, 1 To 8 Ton, Bi-Flow Filter Drier, Solder Connections.....	206.95	10.26
23 23 16 00-0197 Refrigerant Compressor Discharge Mufflers (23 23 16)		
23 23 16 00-0198 EA 3/8" Outside Diameter, 2 Ton, Refrigerant Compressor Discharge Muffler	106.97	9.24
23 23 16 00-0199 EA 1/2" Outside Diameter, 3 Ton, Refrigerant Compressor Discharge Muffler	118.09	9.24
23 23 16 00-0200 EA 5/8" Outside Diameter, 5 Ton, Refrigerant Compressor Discharge Muffler	142.46	9.24
23 23 16 00-0201 EA 7/8" Outside Diameter, 7-1/2 To 10 Ton, Refrigerant Compressor Discharge Muffler	190.77	11.29
23 23 16 00-0202 EA 1-1/8" Outside Diameter, 10 To 15 Ton, Refrigerant Compressor Discharge Muffler	248.71	11.29
23 23 16 00-0203 EA 1-3/8" Outside Diameter, 15 To 25 Ton, Refrigerant Compressor Discharge Muffler	295.39	12.32
23 23 16 00-0204 EA 1-5/8" Outside Diameter, 25 To 50 Ton, Refrigerant Compressor Discharge Muffler	374.55	13.35
23 23 16 00-0205 EA 2-1/8" Outside Diameter, 50 To 75 Ton, Refrigerant Compressor Discharge Muffler	698.16	14.38
23 23 16 00-0206 EA 2-5/8" Outside Diameter, 75 To 100 Ton, Refrigerant Compressor Discharge Muffler	778.55	15.40
23 23 16 00-0207 EA 3-1/8" Outside Diameter, 100 To 125 Ton, Refrigerant Compressor Discharge Muffler	963.20	15.40
23 23 16 00-0208 Expansion Valves And Vibration Absorbers (23 23 16)		
23 23 16 00-0209 Thermostatic Expansion Valves (23 23 16 00-0208)		
Note: Outside diameter pipe sizes. Sporlan TP-S.		
23 23 16 00-0210 EA 3/8" In x 5/8" Out, 1/2 To 3 Ton, Thermostatic Expansion Valve	232.45	9.24
23 23 16 00-0211 EA 1/2" In x 7/8" Out, 4 To 5 Ton, Thermostatic Expansion Valve	323.80	10.26
23 23 16 00-0212 EA 5/8" In x 7/8" Out, 6 To 8 Ton, Thermostatic Expansion Valve	554.29	10.26
23 23 16 00-0213 EA 7/8" In x 1-1/8" Out, 7 To 12 Ton, Thermostatic Expansion Valve	656.88	11.29
23 23 16 00-0214 EA 7/8" In x 1-3/8" Out, 15 To 20 Ton, Thermostatic Expansion Valve	708.21	11.29
23 23 16 00-0215 Electric Expansion Valves (23 23 16 00-0208)		
Note: Sporlan SEI or SEH.		
23 23 16 00-0216 EA 1/2 To 11 Ton Electric Expansion Valve	569.45	12.83
Note: Sporlan SEI.		
23 23 16 00-0217 EA 25 Ton Electric Expansion Valve	660.28	13.35
Note: Sporlan SEI.		



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 23 16 00-0218	EA	50 Ton Electric Expansion Valve Note: Sporlan SEI.	751.63	13.86
23 23 16 00-0219	EA	100 Ton Electric Expansion Valve Note: Sporlan SEH.	881.60	13.86
23 23 16 00-0220	EA	175 Ton Electric Expansion Valve Note: Sporlan SEH.	993.25	14.38
23 23 16 00-0221		Braided Stainless Steel Over Copper Vibration Absorber (23 23 16 00-0208)		
23 23 16 00-0222	EA	1/4" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	61.62	13.35
23 23 16 00-0223	EA	3/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	61.60	15.40
23 23 16 00-0224	EA	1/2" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	79.98	19.51
23 23 16 00-0225	EA	5/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	85.92	23.61
23 23 16 00-0226	EA	3/4" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	101.07	28.74
23 23 16 00-0227	EA	7/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	117.09	32.85
23 23 16 00-0228	EA	1-1/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	166.15	12.32
23 23 16 00-0229	EA	1-3/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	235.37	13.35
23 23 16 00-0230	EA	1-5/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	295.63	13.35
23 23 16 00-0231	EA	2-1/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	406.57	14.38
23 23 16 00-0232	EA	2-5/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	696.24	15.40
23 23 16 00-0233	EA	3-1/8" Outside Diameter Braided Stainless Steel Over Copper Vibration Absorber.....	913.32	15.40
23 23 16 00-0234		Accumulator, Refrigerant Suction Line (23 23 16)		
23 23 16 00-0235	EA	3/4" Accumulator, Refrigeration Suction Line.....	195.39	46.71
23 23 16 00-0236	EA	7/8" Accumulator, Refrigeration Suction Line.....	264.63	64.16
23 23 16 00-0237	EA	1-1/8" Accumulator, Refrigeration Suction Line.....	313.77	85.52
23 23 16 00-0238	EA	1 3/8" Accumulator, Refrigeration Suction Line.....	445.70	102.66
23 23 16 00-0239	EA	1-5/8" Accumulator, Refrigeration Suction Line.....	616.93	128.33
23 23 16 00-0240	EA	2-1/8" Accumulator, Refrigeration Suction Line.....	942.99	171.14
23 23 16 00-0241		Special Chemicals/Component (23 23 16)		
23 23 16 00-0242	GAL	Special Chemical, Inhibited Propylene Glycol, 100%.....	41.18	
23 23 16 00-0243	GAL	Removal And Storage For Reuse Of Inhibited Propylene Glycol.....	7.96	
23 23 16 00-0244	GAL	Special Chemical, Inhibited Ethylene Glycol, 100%.....	27.95	
23 23 16 00-0245	EA	Internal Coil/Refrigerant Piping Flush..... Note: Up to 10 ton AC system.	339.46	
23 23 16 00-0246		Copper Refrigeration Line Sets, Pre-Insulated (23 23 16)		
		Note: Includes fasteners and insulation on suction line only		
23 23 16 00-0247	LF	5/16" Outside Diameter Liquid, And 5/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation.....	14.59	0.86
23 23 16 00-0248	LF	5/16" Outside Diameter Liquid, And 3/4" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation.....	15.41	0.86
23 23 16 00-0249	LF	3/8" Outside Diameter Liquid, And 5/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation.....	13.73	0.87
23 23 16 00-0250	LF	3/8" Outside Diameter Liquid, And 3/4" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation.....	16.21	0.88
23 23 16 00-0251	LF	3/8" Outside Diameter Liquid, And 7/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation.....	19.62	0.91
23 23 16 00-0252	LF	3/8" Outside Diameter Liquid, And 1-1/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation.....	23.12	0.96
23 23 16 00-0253	LF	1/2" Outside Diameter Liquid, And 3/4" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation.....	17.10	0.91
23 23 16 00-0254	LF	1/2" Outside Diameter Liquid, And 7/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation.....	21.73	0.97
23 23 16 00-0255	LF	1/2" Outside Diameter Liquid, And 1-1/8" Outside Diameter Suction, Refrigerant Line Set With 1/2" Insulation.....	26.34	1.03
23 23 16 00-0256		Triple Copper Refrigeration Line Sets (23 23 16)		
		Note: Includes fasteners and insulation		
23 23 16 00-0257	LF	1-3/8" / 1-1/8" / 3/4" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation.....	55.59	8.43
23 23 16 00-0258	LF	1-1/8" / 7/8" / 3/4" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation.....	45.36	7.55
23 23 16 00-0259	LF	1-1/8" / 7/8" / 5/8" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation.....	43.80	7.27
23 23 16 00-0260	LF	1-1/8" / 3/4" / 1/2" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation.....	40.93	7.12
23 23 16 00-0261	LF	7/8" / 3/4" / 1/2" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation.....	36.25	6.60
23 23 16 00-0262	LF	5/8" / 1/2" / 3/8" Outside Diameter, Soft Refrigeration Copper Tubing Triple Copper Pipe Assembly, With 1/2" Elastomeric Insulation.....	29.28	5.76
23 23 23		Refrigerants (23 23)		
23 23 23 00-0001		Refrigerant (23 23 23)		
23 23 23 00-0002	LB	R-113 Refrigerant.....	49.68	
23 23 23 00-0003	LB	R-123 Refrigerant.....	36.44	
23 23 23 00-0004	LB	R-134A Refrigerant.....	12.99	
23 23 23 00-0005	LB	R-404A Refrigerant.....	23.24	
23 23 23 00-0006	LB	R-407C Refrigerant.....	22.99	
23 23 23 00-0007	LB	R-408A Refrigerant.....	52.41	
23 23 23 00-0008	LB	R-410A Refrigerant.....	22.53	
23 23 23 00-0009	LB	R-500 Refrigerant.....	44.53	
23 23 23 00-0010	LB	R-507 Refrigerant.....	14.33	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 20 HVAC Piping and Pumps****23 23 Refrigerant Piping**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 25 HVAC Water Treatment ^(23 20)**23 25 13 Water Treatment for Closed-Loop Hydronic Systems** ^(23 25)

23 25 13 00-0001		Polyethylene Chemical Storage Tanks ^(23 25 13)		
23 25 13 00-0002	EA	15 Gallon Chemical Storage Tank, Polyethylene.....	502.30	85.71
23 25 13 00-0003		Gas Chlorinator ^(23 25 13)		
23 25 13 00-0004	EA	Gas Chlorinator, Wall Or Cylinder Mounted (10 PPD) With Metering Tube And Rate Valve Metering Tube Supply Indicator, Rate Valve, And Diffuser-Ejector Unit.....	1,130.10	389.96
		<i>For Booster Pump, Add</i>	438.94	
23 25 13 00-0005	EA	Gas Chlorinator, Wall Or Cylinder Mounted (25 PPD) With Metering Tube And Rate Valve Metering Tube Supply Indicator, Rate Valve, And Diffuser-Ejector Unit.....	1,291.10	445.68
		<i>For Booster Pump, Add</i>	501.74	
23 25 13 00-0006	EA	Gas Chlorinator, Wall Or Cylinder Mounted (50 PPD) With Metering Tube And Rate Valve Metering Tube Supply Indicator, Rate Valve, And Diffuser-Ejector Unit.....	1,786.02	337.60
		<i>For Booster Pump, Add</i>	614.69	
23 25 13 00-0007		Bypass Shot Feeders ^(23 25 13)		
		Note: Includes up to 4 ports (in, out, fill and drain). Excludes valves.		
23 25 13 00-0008		In Line Mount, 125 PSIG ^(23 25 13 00-0007)		
23 25 13 00-0009	EA	1.7 Gallon Bypass Shot Chemical Feeder In Line Mount, 125 PSIG.....	1,026.12	290.53
23 25 13 00-0010		Floor Mount, 175 PSIG ^(23 25 13 00-0007)		
23 25 13 00-0011	EA	5 Gallon Bypass Shot Chemical Feeder, Floor Mount, 175 PSIG.....	1,508.71	437.34
23 25 13 00-0012	EA	12 Gallon Bypass Shot Chemical Feeder, Floor Mount, 175 PSIG.....	1,989.08	579.02
23 25 13 00-0013		Floor Mount, 150 LB ASME Code ^(23 25 13 00-0007)		
23 25 13 00-0014	EA	5 Gallon Bypass Shot Chemical Feeder, Floor Mount, 150 LB ASME Code.....	1,508.71	437.34
23 25 13 00-0015	EA	10 Gallon Bypass Shot Chemical Feeder, Floor Mount, 150 LB ASME Code.....	1,989.08	579.02
23 25 13 00-0016		Floor Mount, 300 LB ASME Code ^(23 25 13 00-0007)		
23 25 13 00-0017	EA	5 Gallon Bypass Shot Chemical Feeder, Floor Mount, 300 LB ASME Code.....	1,893.42	437.34
23 25 13 00-0018	EA	10 Gallon Bypass Shot Chemical Feeder, Floor Mount, 300 LB ASME Code.....	2,388.55	579.02

23 30 HVAC Air Distribution ⁽²³⁾**23 31 HVAC Ducts and Casings** ^(23 30)

Note: Excludes angle iron, threaded rod, anchor bolts or other external supporting devices other than normal sheet metal straps. See CSI section 05 12 23 00-0423 for angle iron, 23 05 29 00-0001 for threaded rod.

23 31 13 Metal Ducts ^(23 31)**23 31 13 13 Rectangular Metal Ducts** ^(23 31 13)

23 31 13 13-0001		Steel Sheet Metal Duct ^(23 31 13 13)		
		Note: Includes all fittings, transitions, collars, straps, support straps, fabrication, installation and sealing the joints by tape, mastic, or spray on sealer. Duct Sealing: Class-C requires sealing transverse joints; Class-B requires sealing all transverse joint and longitudinal seams; Class-A requires sealing all transverse joints longitudinal seams and duct wall penetrations.		
23 31 13 13-0002		Galvanized Steel Sheet Metal Ductwork And Sealant ^(23 31 13 13-0001)		
		Note: SMACNA weight for galvanized steel ductwork LB/SF (surface areas) by gauge: 26 gauge - 0.906 LB/SF; 24 gauge - 1.156 LB/SF; 22 gauge - 1.406 LB/SF; 20 gauge - 1.656 LB/SF; 18 gauge - 2.156 LB/SF; 16 gauge - 2.656 LB/SF		
23 31 13 13-0003	LB	Seal Class C, Rectangular Or Square, Galvanized Steel Sheet Metal Ductwork.....	12.08	3.18
		<i>For Polyvinyl Chloride (PVC) Coated, Add</i>	0.46	
		<i>For Up To 200, Add</i>	4.31	
		<i>For >200 To 500, Add</i>	2.75	
		<i>For >500 To 1,000, Add</i>	1.85	
		<i>For >1,000 To 2,000, Add</i>	1.04	
		<i>For >2,000 To 5,000, Add</i>	0.46	
		<i>For Work In Restricted Working Space, Add</i>	2.93	
		<i>For Elevated Installation >10' To 15', Add</i>	0.59	
		<i>For Elevated Installation >15' To 20', Add</i>	1.17	
		<i>For Elevated Installation >20' To 25', Add</i>	1.47	
		<i>For Elevated Installation >25' To 30', Add</i>	2.05	
		<i>For Elevated Installation >30' To 35', Add</i>	2.35	
		<i>For Elevated Installation >35' To 40', Add</i>	2.93	
		<i>For Elevated Installation >40', Add</i>	3.23	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
HVAC Ducts and Casings		23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0004	LB		Seal Class B, Rectangular Or Square, Galvanized Steel Sheet Metal Ductwork.....	13.79	3.18
			For Polyvinyl Chloride (PVC) Coated, Add	0.51	
			For Up To 200, Add	4.90	
			For >200 To 500, Add	3.12	
			For >500 To 1,000, Add	2.11	
			For >1,000 To 2,000, Add	1.18	
			For >2,000 To 5,000, Add	0.53	
			For Work In Restricted Working Space, Add	3.38	
			For Elevated Installation >10' To 15', Add	0.68	
			For Elevated Installation >15' To 20', Add	1.35	
			For Elevated Installation >20' To 25', Add	1.69	
			For Elevated Installation >25' To 30', Add	2.36	
			For Elevated Installation >30' To 35', Add	2.70	
			For Elevated Installation >35' To 40', Add	3.38	
			For Elevated Installation >40', Add	3.71	
23 31 13 13-0005	LB		Seal Class A, Rectangular Or Square, Galvanized Steel Sheet Metal Ductwork.....	16.47	3.18
			For Polyvinyl Chloride (PVC) Coated, Add	0.56	
			For Up To 200, Add	5.78	
			For >200 To 500, Add	3.66	
			For >500 To 1,000, Add	2.50	
			For >1,000 To 2,000, Add	1.40	
			For >2,000 To 5,000, Add	0.63	
			For Work In Restricted Working Space, Add	4.11	
			For Elevated Installation >10' To 15', Add	0.82	
			For Elevated Installation >15' To 20', Add	1.64	
			For Elevated Installation >20' To 25', Add	2.05	
			For Elevated Installation >25' To 30', Add	2.87	
			For Elevated Installation >30' To 35', Add	3.29	
			For Elevated Installation >35' To 40', Add	4.11	
			For Elevated Installation >40', Add	4.52	
23 31 13 13-0006			Alloy 3003-H14, Aluminum Sheet Metal Ductwork (23 31 13 13-0001)		
			Note: SMACNA weight for aluminum ductwork LB/SF (surface areas) by gauge: 26 gauge - 0.224 LB/SF; 24 gauge - 0.282 LB/SF; 22 gauge - 0.352 LB/SF; 20 gauge - 0.451 LB/SF; 18 gauge - 0.563 LB/SF; 16 gauge - 0.718 LB/SF; 14 gauge - 0.901 LB/SF; 12 gauge - 0.141 LB/SF		
23 31 13 13-0007	LB		Seal Class C, Alloy 3003-H14, Aluminum Sheet Metal Ductwork.....	23.46	3.18
			For Work In Restricted Working Space, Add	5.80	
			For Up To 200, Add	8.28	
			For >200 To 500, Add	5.26	
			For >500 To 1,000, Add	3.57	
			For >1,000 To 2,000, Add	2.00	
			For >2,000 To 5,000, Add	0.90	
			For Elevated Installation >10' To 15', Add	1.16	
			For Elevated Installation >15' To 20', Add	2.32	
			For Elevated Installation >20' To 25', Add	2.90	
			For Elevated Installation >25' To 30', Add	4.06	
			For Elevated Installation >30' To 35', Add	4.64	
			For Elevated Installation >35' To 40', Add	5.80	
			For Elevated Installation >40', Add	6.38	
23 31 13 13-0008	LB		Seal Class B, Alloy 3003-H14, Aluminum Sheet Metal Ductwork.....	26.60	3.18
			For Work In Restricted Working Space, Add	6.67	
			For Up To 200, Add	9.29	
			For >200 To 500, Add	5.88	
			For >500 To 1,000, Add	4.03	
			For >1,000 To 2,000, Add	2.26	
			For >2,000 To 5,000, Add	1.02	
			For Elevated Installation >10' To 15', Add	1.33	
			For Elevated Installation >15' To 20', Add	2.67	
			For Elevated Installation >20' To 25', Add	3.33	
			For Elevated Installation >25' To 30', Add	4.67	
			For Elevated Installation >30' To 35', Add	5.34	
			For Elevated Installation >35' To 40', Add	6.67	
			For Elevated Installation >40', Add	7.34	
23 31 13 13-0009	LB		Seal Class A, Alloy 3003-H14, Aluminum Sheet Metal Ductwork.....	31.67	3.18
			For Work In Restricted Working Space, Add	8.12	
			For Up To 200, Add	10.88	
			For >200 To 500, Add	6.85	
			For >500 To 1,000, Add	4.76	
			For >1,000 To 2,000, Add	2.67	
			For >2,000 To 5,000, Add	1.22	
			For Elevated Installation >10' To 15', Add	1.62	
			For Elevated Installation >15' To 20', Add	3.25	
			For Elevated Installation >20' To 25', Add	4.06	
			For Elevated Installation >25' To 30', Add	5.68	
			For Elevated Installation >30' To 35', Add	6.49	
			For Elevated Installation >35' To 40', Add	8.12	
			For Elevated Installation >40', Add	8.93	
23 31 13 13-0010			Type 304, Stainless Steel Sheet Metal Ductwork (23 31 13 13-0001)		
			Note: SMACNA weight for stainless steel ductwork LB/SF (surface areas) by gauge: 26 gauge - 0.748 LB/SF; 24 gauge - 0.987 LB/SF; 22 gauge - 1.231 LB/SF; 20 gauge - 1.491 LB/SF; 18 gauge - 2.016 LB/SF; 16 gauge - 2.499 LB/SF; 14 gauge - 3.154 LB/SF; 12 gauge - 4.427 LB/SF		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0011	LB	Seal Class C, Type 304, Stainless Steel Sheet Metal Ductwork.....	17.37	4.23
		<i>For Work In Restricted Working Space, Add</i>	3.56	
		<i>For Welded Seams, Add</i>	6.21	
		<i>For Up To 200, Add</i>	6.86	
		<i>For >200 To 500, Add</i>	4.50	
		<i>For >500 To 1,000, Add</i>	2.82	
		<i>For >1,000 To 2,000, Add</i>	1.55	
		<i>For >2,000 To 5,000, Add</i>	0.64	
		<i>For Elevated Installation >10' To 15', Add</i>	0.71	
		<i>For Elevated Installation >15' To 20', Add</i>	1.43	
		<i>For Elevated Installation >20' To 25', Add</i>	1.78	
		<i>For Elevated Installation >25' To 30', Add</i>	2.49	
		<i>For Elevated Installation >30' To 35', Add</i>	2.85	
		<i>For Elevated Installation >35' To 40', Add</i>	3.56	
		<i>For Elevated Installation >40', Add</i>	3.92	
23 31 13 13-0012	LB	Seal Class B, Type 304, Stainless Steel Sheet Metal Ductwork.....	20.06	4.23
		<i>For Work In Restricted Working Space, Add</i>	4.30	
		<i>For Welded Seams, Add</i>	7.45	
		<i>For Up To 200, Add</i>	7.74	
		<i>For >200 To 500, Add</i>	5.04	
		<i>For >500 To 1,000, Add</i>	3.21	
		<i>For >1,000 To 2,000, Add</i>	1.78	
		<i>For >2,000 To 5,000, Add</i>	0.75	
		<i>For Elevated Installation >10' To 15', Add</i>	0.86	
		<i>For Elevated Installation >15' To 20', Add</i>	1.72	
		<i>For Elevated Installation >20' To 25', Add</i>	2.15	
		<i>For Elevated Installation >25' To 30', Add</i>	3.01	
		<i>For Elevated Installation >30' To 35', Add</i>	3.44	
		<i>For Elevated Installation >35' To 40', Add</i>	4.30	
		<i>For Elevated Installation >40', Add</i>	4.73	
23 31 13 13-0013	LB	Seal Class A, Type 304, Stainless Steel Sheet Metal Ductwork.....	22.59	4.23
		<i>For Work In Restricted Working Space, Add</i>	4.99	
		<i>For Welded Seams, Add</i>	8.61	
		<i>For Up To 200, Add</i>	8.57	
		<i>For >200 To 500, Add</i>	5.56	
		<i>For >500 To 1,000, Add</i>	3.58	
		<i>For >1,000 To 2,000, Add</i>	1.99	
		<i>For >2,000 To 5,000, Add</i>	0.84	
		<i>For Elevated Installation >10' To 15', Add</i>	1.00	
		<i>For Elevated Installation >15' To 20', Add</i>	1.99	
		<i>For Elevated Installation >20' To 25', Add</i>	2.49	
		<i>For Elevated Installation >25' To 30', Add</i>	3.49	
		<i>For Elevated Installation >30' To 35', Add</i>	3.99	
		<i>For Elevated Installation >35' To 40', Add</i>	4.99	
		<i>For Elevated Installation >40', Add</i>	5.48	
23 31 13 13-0014		Galvanized Steel Sheet Metal Ductwork By LF (23 31 13 13-0001)		
		Note: Ductwork includes collars, straps, support straps, etc. Shop fabricated ductwork is designed and fabricated in shop with machines, delivered to site and installed. For fittings add the following equivalent lengths: 0.75' for duct end cap; 1.5' for tap-in; 2.5' for 45 degree elbows; 3' for 90 degree elbows, transition, taper, register box; 4' for 45 degree reducing elbow, offset, turning vanes installed in elbows; 5' for 90 degree reducing elbow, 135 degree angle gooseneck, boots; and 6' for transition/reducer.		
23 31 13 13-0015		30 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)		
23 31 13 13-0016	LF	4" x 4", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	12.74	6.53
		<i>For Seal Class B, Add</i>	1.63	
		<i>For Seal Class A, Add</i>	3.48	
		<i>For Work In Restricted Working Space, Add</i>	3.27	
23 31 13 13-0017	LF	4" x 6", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	15.91	8.16
		<i>For Seal Class B, Add</i>	2.04	
		<i>For Seal Class A, Add</i>	4.36	
		<i>For Work In Restricted Working Space, Add</i>	4.08	
23 31 13 13-0018	LF	4" x 8", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	19.11	9.80
		<i>For Seal Class B, Add</i>	2.45	
		<i>For Seal Class A, Add</i>	5.23	
		<i>For Work In Restricted Working Space, Add</i>	4.90	
23 31 13 13-0019	LF	4" x 10", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	22.28	11.43
		<i>For Seal Class B, Add</i>	2.86	
		<i>For Seal Class A, Add</i>	6.10	
		<i>For Work In Restricted Working Space, Add</i>	5.72	
23 31 13 13-0020	LF	4" x 12", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	25.48	13.07
		<i>For Seal Class B, Add</i>	3.27	
		<i>For Seal Class A, Add</i>	6.97	
		<i>For Work In Restricted Working Space, Add</i>	6.53	
23 31 13 13-0021	LF	4" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	28.65	14.70
		<i>For Seal Class B, Add</i>	3.67	
		<i>For Seal Class A, Add</i>	7.84	
		<i>For Work In Restricted Working Space, Add</i>	7.35	
23 31 13 13-0022	LF	4" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	31.83	16.33
		<i>For Seal Class B, Add</i>	4.08	
		<i>For Seal Class A, Add</i>	8.71	
		<i>For Work In Restricted Working Space, Add</i>	8.17	
23 31 13 13-0023	LF	6" x 6", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	19.11	9.80
		<i>For Seal Class B, Add</i>	2.45	
		<i>For Seal Class A, Add</i>	5.23	
		<i>For Work In Restricted Working Space, Add</i>	4.90	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0024	LF	6" x 8", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	22.28	11.43
		For Seal Class B, Add	.....	2.86	
		For Seal Class A, Add	.....	6.10	
		For Work In Restricted Working Space, Add	.....	5.72	
23 31 13 13-0025	LF	6" x 10", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	25.48	13.07
		For Seal Class B, Add	.....	3.27	
		For Seal Class A, Add	.....	6.97	
		For Work In Restricted Working Space, Add	.....	6.53	
23 31 13 13-0026	LF	6" x 12", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	28.65	14.70
		For Seal Class B, Add	.....	3.67	
		For Seal Class A, Add	.....	7.84	
		For Work In Restricted Working Space, Add	.....	7.35	
23 31 13 13-0027	LF	6" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	31.83	16.33
		For Seal Class B, Add	.....	4.08	
		For Seal Class A, Add	.....	8.71	
		For Work In Restricted Working Space, Add	.....	8.17	
23 31 13 13-0028	LF	6" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	35.02	17.97
		For Seal Class B, Add	.....	4.49	
		For Seal Class A, Add	.....	9.58	
		For Work In Restricted Working Space, Add	.....	8.98	
23 31 13 13-0029	LF	8" x 8", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	25.48	13.07
		For Seal Class B, Add	.....	3.27	
		For Seal Class A, Add	.....	6.97	
		For Work In Restricted Working Space, Add	.....	6.53	
23 31 13 13-0030	LF	8" x 10", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	28.65	14.70
		For Seal Class B, Add	.....	3.67	
		For Seal Class A, Add	.....	7.84	
		For Work In Restricted Working Space, Add	.....	7.35	
23 31 13 13-0031	LF	8" x 12", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	31.83	16.33
		For Seal Class B, Add	.....	4.08	
		For Seal Class A, Add	.....	8.71	
		For Work In Restricted Working Space, Add	.....	8.17	
23 31 13 13-0032	LF	8" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	35.02	17.97
		For Seal Class B, Add	.....	4.49	
		For Seal Class A, Add	.....	9.58	
		For Work In Restricted Working Space, Add	.....	8.98	
23 31 13 13-0033	LF	8" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	38.19	19.59
		For Seal Class B, Add	.....	4.90	
		For Seal Class A, Add	.....	10.45	
		For Work In Restricted Working Space, Add	.....	9.80	
23 31 13 13-0034	LF	8" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	41.40	21.23
		For Seal Class B, Add	.....	5.31	
		For Seal Class A, Add	.....	11.32	
		For Work In Restricted Working Space, Add	.....	10.62	
23 31 13 13-0035	LF	8" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	44.57	22.87
		For Seal Class B, Add	.....	5.72	
		For Seal Class A, Add	.....	12.20	
		For Work In Restricted Working Space, Add	.....	11.43	
23 31 13 13-0036	LF	8" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	47.75	24.49
		For Seal Class B, Add	.....	6.12	
		For Seal Class A, Add	.....	13.06	
		For Work In Restricted Working Space, Add	.....	12.25	
23 31 13 13-0037	LF	8" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	50.92	26.13
		For Seal Class B, Add	.....	6.53	
		For Seal Class A, Add	.....	13.93	
		For Work In Restricted Working Space, Add	.....	13.06	
23 31 13 13-0038	LF	10" x 10", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	31.83	16.33
		For Seal Class B, Add	.....	4.08	
		For Seal Class A, Add	.....	8.71	
		For Work In Restricted Working Space, Add	.....	8.17	
23 31 13 13-0039	LF	10" x 12", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	35.02	17.97
		For Seal Class B, Add	.....	4.49	
		For Seal Class A, Add	.....	9.58	
		For Work In Restricted Working Space, Add	.....	8.98	
23 31 13 13-0040	LF	10" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	38.19	19.59
		For Seal Class B, Add	.....	4.90	
		For Seal Class A, Add	.....	10.45	
		For Work In Restricted Working Space, Add	.....	9.80	
23 31 13 13-0041	LF	10" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	41.40	21.23
		For Seal Class B, Add	.....	5.31	
		For Seal Class A, Add	.....	11.32	
		For Work In Restricted Working Space, Add	.....	10.62	
23 31 13 13-0042	LF	10" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	44.57	22.87
		For Seal Class B, Add	.....	5.72	
		For Seal Class A, Add	.....	12.20	
		For Work In Restricted Working Space, Add	.....	11.43	
23 31 13 13-0043	LF	10" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	47.75	24.49
		For Seal Class B, Add	.....	6.12	
		For Seal Class A, Add	.....	13.06	
		For Work In Restricted Working Space, Add	.....	12.25	
23 31 13 13-0044	LF	10" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	50.92	26.13
		For Seal Class B, Add	.....	6.53	
		For Seal Class A, Add	.....	13.93	
		For Work In Restricted Working Space, Add	.....	13.06	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0045	LF 10" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	54.13	27.76
		For Seal Class B, Add	6.94	
		For Seal Class A, Add	14.81	
		For Work In Restricted Working Space, Add	13.88	
23 31 13	13-0046	LF 12" x 12", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	38.19	19.59
		For Seal Class B, Add	4.90	
		For Seal Class A, Add	10.45	
		For Work In Restricted Working Space, Add	9.80	
23 31 13	13-0047	LF 12" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	41.40	21.23
		For Seal Class B, Add	5.31	
		For Seal Class A, Add	11.32	
		For Work In Restricted Working Space, Add	10.62	
23 31 13	13-0048	LF 12" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	44.57	22.87
		For Seal Class B, Add	5.72	
		For Seal Class A, Add	12.20	
		For Work In Restricted Working Space, Add	11.43	
23 31 13	13-0049	LF 12" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	47.75	24.49
		For Seal Class B, Add	6.12	
		For Seal Class A, Add	13.06	
		For Work In Restricted Working Space, Add	12.25	
23 31 13	13-0050	LF 12" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	50.92	26.13
		For Seal Class B, Add	6.53	
		For Seal Class A, Add	13.93	
		For Work In Restricted Working Space, Add	13.06	
23 31 13	13-0051	LF 12" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	54.13	27.76
		For Seal Class B, Add	6.94	
		For Seal Class A, Add	14.81	
		For Work In Restricted Working Space, Add	13.88	
23 31 13	13-0052	LF 12" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	57.31	29.39
		For Seal Class B, Add	7.35	
		For Seal Class A, Add	15.68	
		For Work In Restricted Working Space, Add	14.70	
23 31 13	13-0053	LF 14" x 14", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	44.57	22.87
		For Seal Class B, Add	5.72	
		For Seal Class A, Add	12.20	
		For Work In Restricted Working Space, Add	11.43	
23 31 13	13-0054	LF 14" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	47.75	24.49
		For Seal Class B, Add	6.12	
		For Seal Class A, Add	13.06	
		For Work In Restricted Working Space, Add	12.25	
23 31 13	13-0055	LF 14" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	50.92	26.13
		For Seal Class B, Add	6.53	
		For Seal Class A, Add	13.93	
		For Work In Restricted Working Space, Add	13.06	
23 31 13	13-0056	LF 14" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	54.13	27.76
		For Seal Class B, Add	6.94	
		For Seal Class A, Add	14.81	
		For Work In Restricted Working Space, Add	13.88	
23 31 13	13-0057	LF 14" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	57.31	29.39
		For Seal Class B, Add	7.35	
		For Seal Class A, Add	15.68	
		For Work In Restricted Working Space, Add	14.70	
23 31 13	13-0058	LF 14" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.50	31.03
		For Seal Class B, Add	7.76	
		For Seal Class A, Add	16.55	
		For Work In Restricted Working Space, Add	15.52	
23 31 13	13-0059	LF 16" x 16", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	50.92	26.13
		For Seal Class B, Add	6.53	
		For Seal Class A, Add	13.93	
		For Work In Restricted Working Space, Add	13.06	
23 31 13	13-0060	LF 16" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	54.13	27.76
		For Seal Class B, Add	6.94	
		For Seal Class A, Add	14.81	
		For Work In Restricted Working Space, Add	13.88	
23 31 13	13-0061	LF 16" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	57.31	29.39
		For Seal Class B, Add	7.35	
		For Seal Class A, Add	15.68	
		For Work In Restricted Working Space, Add	14.70	
23 31 13	13-0062	LF 16" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.50	31.03
		For Seal Class B, Add	7.76	
		For Seal Class A, Add	16.55	
		For Work In Restricted Working Space, Add	15.52	
23 31 13	13-0063	LF 16" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	63.67	32.66
		For Seal Class B, Add	8.16	
		For Seal Class A, Add	17.42	
		For Work In Restricted Working Space, Add	16.33	
23 31 13	13-0064	LF 18" x 18", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	57.31	29.39
		For Seal Class B, Add	7.35	
		For Seal Class A, Add	15.68	
		For Work In Restricted Working Space, Add	14.70	
23 31 13	13-0065	LF 18" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.50	31.03
		For Seal Class B, Add	7.76	
		For Seal Class A, Add	16.55	
		For Work In Restricted Working Space, Add	15.52	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0066	LF	18" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	63.67	32.66
		For Seal Class B, Add	.....	8.16	
		For Seal Class A, Add	.....	17.42	
		For Work In Restricted Working Space, Add	.....	16.33	
23 31 13 13-0067	LF	18" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	66.84	34.30
		For Seal Class B, Add	.....	8.57	
		For Seal Class A, Add	.....	18.29	
		For Work In Restricted Working Space, Add	.....	17.15	
23 31 13 13-0068	LF	20" x 20", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	63.67	32.66
		For Seal Class B, Add	.....	8.16	
		For Seal Class A, Add	.....	17.42	
		For Work In Restricted Working Space, Add	.....	16.33	
23 31 13 13-0069	LF	20" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	66.84	34.30
		For Seal Class B, Add	.....	8.57	
		For Seal Class A, Add	.....	18.29	
		For Work In Restricted Working Space, Add	.....	17.15	
23 31 13 13-0070	LF	20" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	70.03	35.92
		For Seal Class B, Add	.....	8.98	
		For Seal Class A, Add	.....	19.16	
		For Work In Restricted Working Space, Add	.....	17.96	
23 31 13 13-0071	LF	22" x 22", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	70.03	35.92
		For Seal Class B, Add	.....	8.98	
		For Seal Class A, Add	.....	19.16	
		For Work In Restricted Working Space, Add	.....	17.96	
23 31 13 13-0072	LF	22" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	73.21	37.56
		For Seal Class B, Add	.....	9.39	
		For Seal Class A, Add	.....	20.03	
		For Work In Restricted Working Space, Add	.....	18.78	
23 31 13 13-0073	LF	24" x 24", 30 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	76.42	39.20
		For Seal Class B, Add	.....	9.80	
		For Seal Class A, Add	.....	20.91	
		For Work In Restricted Working Space, Add	.....	19.60	
23 31 13 13-0074		28 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)			
23 31 13 13-0075	LF	4" x 4", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	15.15	7.78
		For Seal Class B, Add	.....	1.94	
		For Seal Class A, Add	.....	4.15	
		For Work In Restricted Working Space, Add	.....	3.89	
23 31 13 13-0076	LF	4" x 6", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	18.96	9.72
		For Seal Class B, Add	.....	2.43	
		For Seal Class A, Add	.....	5.18	
		For Work In Restricted Working Space, Add	.....	4.86	
23 31 13 13-0077	LF	4" x 8", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	22.75	11.66
		For Seal Class B, Add	.....	2.92	
		For Seal Class A, Add	.....	6.22	
		For Work In Restricted Working Space, Add	.....	5.84	
23 31 13 13-0078	LF	4" x 10", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	26.52	13.61
		For Seal Class B, Add	.....	3.40	
		For Seal Class A, Add	.....	7.26	
		For Work In Restricted Working Space, Add	.....	6.80	
23 31 13 13-0079	LF	4" x 12", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	30.32	15.56
		For Seal Class B, Add	.....	3.89	
		For Seal Class A, Add	.....	8.29	
		For Work In Restricted Working Space, Add	.....	7.78	
23 31 13 13-0080	LF	4" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	34.11	17.49
		For Seal Class B, Add	.....	4.37	
		For Seal Class A, Add	.....	9.33	
		For Work In Restricted Working Space, Add	.....	8.75	
23 31 13 13-0081	LF	4" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	37.90	19.45
		For Seal Class B, Add	.....	4.86	
		For Seal Class A, Add	.....	10.37	
		For Work In Restricted Working Space, Add	.....	9.72	
23 31 13 13-0082	LF	6" x 6", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	22.75	11.66
		For Seal Class B, Add	.....	2.92	
		For Seal Class A, Add	.....	6.22	
		For Work In Restricted Working Space, Add	.....	5.84	
23 31 13 13-0083	LF	6" x 8", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	26.52	13.61
		For Seal Class B, Add	.....	3.40	
		For Seal Class A, Add	.....	7.26	
		For Work In Restricted Working Space, Add	.....	6.80	
23 31 13 13-0084	LF	6" x 10", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	30.32	15.56
		For Seal Class B, Add	.....	3.89	
		For Seal Class A, Add	.....	8.29	
		For Work In Restricted Working Space, Add	.....	7.78	
23 31 13 13-0085	LF	6" x 12", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	34.11	17.49
		For Seal Class B, Add	.....	4.37	
		For Seal Class A, Add	.....	9.33	
		For Work In Restricted Working Space, Add	.....	8.75	
23 31 13 13-0086	LF	6" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	37.90	19.45
		For Seal Class B, Add	.....	4.86	
		For Seal Class A, Add	.....	10.37	
		For Work In Restricted Working Space, Add	.....	9.72	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0087 LF 6" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	41.70	21.39
For Seal Class B, Add	5.35	
For Seal Class A, Add	11.41	
For Work In Restricted Working Space, Add	10.70	
23 31 13 13-0088 LF 8" x 8", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	30.32	15.56
For Seal Class B, Add	3.89	
For Seal Class A, Add	8.29	
For Work In Restricted Working Space, Add	7.78	
23 31 13 13-0089 LF 8" x 10", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	34.11	17.49
For Seal Class B, Add	4.37	
For Seal Class A, Add	9.33	
For Work In Restricted Working Space, Add	8.75	
23 31 13 13-0090 LF 8" x 12", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	37.90	19.45
For Seal Class B, Add	4.86	
For Seal Class A, Add	10.37	
For Work In Restricted Working Space, Add	9.72	
23 31 13 13-0091 LF 8" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	41.70	21.39
For Seal Class B, Add	5.35	
For Seal Class A, Add	11.41	
For Work In Restricted Working Space, Add	10.70	
23 31 13 13-0092 LF 8" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	45.47	23.33
For Seal Class B, Add	5.83	
For Seal Class A, Add	12.44	
For Work In Restricted Working Space, Add	11.66	
23 31 13 13-0093 LF 8" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	49.26	25.27
For Seal Class B, Add	6.32	
For Seal Class A, Add	13.48	
For Work In Restricted Working Space, Add	12.64	
23 31 13 13-0094 LF 8" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.07	27.22
For Seal Class B, Add	6.81	
For Seal Class A, Add	14.52	
For Work In Restricted Working Space, Add	13.61	
23 31 13 13-0095 LF 8" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	56.84	29.16
For Seal Class B, Add	7.29	
For Seal Class A, Add	15.55	
For Work In Restricted Working Space, Add	14.58	
23 31 13 13-0096 LF 8" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.65	31.11
For Seal Class B, Add	7.78	
For Seal Class A, Add	16.59	
For Work In Restricted Working Space, Add	15.55	
23 31 13 13-0097 LF 10" x 10", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	37.90	19.45
For Seal Class B, Add	4.86	
For Seal Class A, Add	10.37	
For Work In Restricted Working Space, Add	9.72	
23 31 13 13-0098 LF 10" x 12", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	41.70	21.39
For Seal Class B, Add	5.35	
For Seal Class A, Add	11.41	
For Work In Restricted Working Space, Add	10.70	
23 31 13 13-0099 LF 10" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	45.47	23.33
For Seal Class B, Add	5.83	
For Seal Class A, Add	12.44	
For Work In Restricted Working Space, Add	11.66	
23 31 13 13-0100 LF 10" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	49.26	25.27
For Seal Class B, Add	6.32	
For Seal Class A, Add	13.48	
For Work In Restricted Working Space, Add	12.64	
23 31 13 13-0101 LF 10" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.07	27.22
For Seal Class B, Add	6.81	
For Seal Class A, Add	14.52	
For Work In Restricted Working Space, Add	13.61	
23 31 13 13-0102 LF 10" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	56.84	29.16
For Seal Class B, Add	7.29	
For Seal Class A, Add	15.55	
For Work In Restricted Working Space, Add	14.58	
23 31 13 13-0103 LF 10" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.65	31.11
For Seal Class B, Add	7.78	
For Seal Class A, Add	16.59	
For Work In Restricted Working Space, Add	15.55	
23 31 13 13-0104 LF 10" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	64.45	33.06
For Seal Class B, Add	8.27	
For Seal Class A, Add	17.63	
For Work In Restricted Working Space, Add	16.53	
23 31 13 13-0105 LF 12" x 12", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	45.47	23.33
For Seal Class B, Add	5.83	
For Seal Class A, Add	12.44	
For Work In Restricted Working Space, Add	11.66	
23 31 13 13-0106 LF 12" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	49.26	25.27
For Seal Class B, Add	6.32	
For Seal Class A, Add	13.48	
For Work In Restricted Working Space, Add	12.64	
23 31 13 13-0107 LF 12" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.07	27.22
For Seal Class B, Add	6.81	
For Seal Class A, Add	14.52	
For Work In Restricted Working Space, Add	13.61	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0108	LF	12" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	56.84	29.16
			For Seal Class B, Add	7.29	
			For Seal Class A, Add	15.55	
			For Work In Restricted Working Space, Add	14.58	
23 31 13	13-0109	LF	12" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.65	31.11
			For Seal Class B, Add	7.78	
			For Seal Class A, Add	16.59	
			For Work In Restricted Working Space, Add	15.55	
23 31 13	13-0110	LF	12" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	64.45	33.06
			For Seal Class B, Add	8.27	
			For Seal Class A, Add	17.63	
			For Work In Restricted Working Space, Add	16.53	
23 31 13	13-0111	LF	12" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.22	34.99
			For Seal Class B, Add	8.75	
			For Seal Class A, Add	18.67	
			For Work In Restricted Working Space, Add	17.50	
23 31 13	13-0112	LF	14" x 14", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.07	27.22
			For Seal Class B, Add	6.81	
			For Seal Class A, Add	14.52	
			For Work In Restricted Working Space, Add	13.61	
23 31 13	13-0113	LF	14" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	56.84	29.16
			For Seal Class B, Add	7.29	
			For Seal Class A, Add	15.55	
			For Work In Restricted Working Space, Add	14.58	
23 31 13	13-0114	LF	14" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.65	31.11
			For Seal Class B, Add	7.78	
			For Seal Class A, Add	16.59	
			For Work In Restricted Working Space, Add	15.55	
23 31 13	13-0115	LF	14" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	64.45	33.06
			For Seal Class B, Add	8.27	
			For Seal Class A, Add	17.63	
			For Work In Restricted Working Space, Add	16.53	
23 31 13	13-0116	LF	14" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.22	34.99
			For Seal Class B, Add	8.75	
			For Seal Class A, Add	18.67	
			For Work In Restricted Working Space, Add	17.50	
23 31 13	13-0117	LF	14" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	72.03	36.94
			For Seal Class B, Add	9.24	
			For Seal Class A, Add	19.70	
			For Work In Restricted Working Space, Add	18.47	
23 31 13	13-0118	LF	16" x 16", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	60.65	31.11
			For Seal Class B, Add	7.78	
			For Seal Class A, Add	16.59	
			For Work In Restricted Working Space, Add	15.55	
23 31 13	13-0119	LF	16" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	64.45	33.06
			For Seal Class B, Add	8.27	
			For Seal Class A, Add	17.63	
			For Work In Restricted Working Space, Add	16.53	
23 31 13	13-0120	LF	16" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.22	34.99
			For Seal Class B, Add	8.75	
			For Seal Class A, Add	18.67	
			For Work In Restricted Working Space, Add	17.50	
23 31 13	13-0121	LF	16" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	72.03	36.94
			For Seal Class B, Add	9.24	
			For Seal Class A, Add	19.70	
			For Work In Restricted Working Space, Add	18.47	
23 31 13	13-0122	LF	16" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	75.80	38.88
			For Seal Class B, Add	9.72	
			For Seal Class A, Add	20.74	
			For Work In Restricted Working Space, Add	19.44	
23 31 13	13-0123	LF	18" x 18", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.22	34.99
			For Seal Class B, Add	8.75	
			For Seal Class A, Add	18.67	
			For Work In Restricted Working Space, Add	17.50	
23 31 13	13-0124	LF	18" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	72.03	36.94
			For Seal Class B, Add	9.24	
			For Seal Class A, Add	19.70	
			For Work In Restricted Working Space, Add	18.47	
23 31 13	13-0125	LF	18" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	75.80	38.88
			For Seal Class B, Add	9.72	
			For Seal Class A, Add	20.74	
			For Work In Restricted Working Space, Add	19.44	
23 31 13	13-0126	LF	18" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.59	40.83
			For Seal Class B, Add	10.21	
			For Seal Class A, Add	21.78	
			For Work In Restricted Working Space, Add	20.42	
23 31 13	13-0127	LF	20" x 20", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	75.80	38.88
			For Seal Class B, Add	9.72	
			For Seal Class A, Add	20.74	
			For Work In Restricted Working Space, Add	19.44	
23 31 13	13-0128	LF	20" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.59	40.83
			For Seal Class B, Add	10.21	
			For Seal Class A, Add	21.78	
			For Work In Restricted Working Space, Add	20.42	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0129	LF	20" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.39	42.77
		For Seal Class B, Add	10.69	
		For Seal Class A, Add	22.81	
		For Work In Restricted Working Space, Add	21.39	
23 31 13 13-0130	LF	22" x 22", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.39	42.77
		For Seal Class B, Add	10.69	
		For Seal Class A, Add	22.81	
		For Work In Restricted Working Space, Add	21.39	
23 31 13 13-0131	LF	22" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	87.17	44.72
		For Seal Class B, Add	11.18	
		For Seal Class A, Add	23.85	
		For Work In Restricted Working Space, Add	22.36	
23 31 13 13-0132	LF	24" x 24", 28 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	90.96	46.67
		For Seal Class B, Add	11.67	
		For Seal Class A, Add	24.89	
		For Work In Restricted Working Space, Add	23.33	
23 31 13 13-0133 26 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)				
23 31 13 13-0134	LF	4" x 4", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	17.59	9.01
		For Seal Class B, Add	2.26	
		For Seal Class A, Add	4.81	
		For Work In Restricted Working Space, Add	4.51	
23 31 13 13-0135	LF	4" x 6", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	21.99	11.27
		For Seal Class B, Add	2.82	
		For Seal Class A, Add	6.02	
		For Work In Restricted Working Space, Add	5.64	
23 31 13 13-0136	LF	4" x 8", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	26.38	13.54
		For Seal Class B, Add	3.38	
		For Seal Class A, Add	7.22	
		For Work In Restricted Working Space, Add	6.77	
23 31 13 13-0137	LF	4" x 10", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	30.77	15.79
		For Seal Class B, Add	3.95	
		For Seal Class A, Add	8.42	
		For Work In Restricted Working Space, Add	7.89	
23 31 13 13-0138	LF	4" x 12", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	35.17	18.05
		For Seal Class B, Add	4.51	
		For Seal Class A, Add	9.62	
		For Work In Restricted Working Space, Add	9.02	
23 31 13 13-0139	LF	4" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	39.56	20.30
		For Seal Class B, Add	5.07	
		For Seal Class A, Add	10.82	
		For Work In Restricted Working Space, Add	10.15	
23 31 13 13-0140	LF	4" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	43.96	22.55
		For Seal Class B, Add	5.64	
		For Seal Class A, Add	12.03	
		For Work In Restricted Working Space, Add	11.28	
23 31 13 13-0141	LF	6" x 6", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	26.38	13.54
		For Seal Class B, Add	3.38	
		For Seal Class A, Add	7.22	
		For Work In Restricted Working Space, Add	6.77	
23 31 13 13-0142	LF	6" x 8", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	30.77	15.79
		For Seal Class B, Add	3.95	
		For Seal Class A, Add	8.42	
		For Work In Restricted Working Space, Add	7.89	
23 31 13 13-0143	LF	6" x 10", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	35.17	18.05
		For Seal Class B, Add	4.51	
		For Seal Class A, Add	9.62	
		For Work In Restricted Working Space, Add	9.02	
23 31 13 13-0144	LF	6" x 12", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	39.56	20.30
		For Seal Class B, Add	5.07	
		For Seal Class A, Add	10.82	
		For Work In Restricted Working Space, Add	10.15	
23 31 13 13-0145	LF	6" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	43.96	22.55
		For Seal Class B, Add	5.64	
		For Seal Class A, Add	12.03	
		For Work In Restricted Working Space, Add	11.28	
23 31 13 13-0146	LF	6" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	48.37	24.81
		For Seal Class B, Add	6.20	
		For Seal Class A, Add	13.23	
		For Work In Restricted Working Space, Add	12.41	
23 31 13 13-0147	LF	8" x 8", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	35.17	18.05
		For Seal Class B, Add	4.51	
		For Seal Class A, Add	9.62	
		For Work In Restricted Working Space, Add	9.02	
23 31 13 13-0148	LF	8" x 10", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	39.56	20.30
		For Seal Class B, Add	5.07	
		For Seal Class A, Add	10.82	
		For Work In Restricted Working Space, Add	10.15	
23 31 13 13-0149	LF	8" x 12", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	43.97	22.55
		For Seal Class B, Add	5.64	
		For Seal Class A, Add	12.03	
		For Work In Restricted Working Space, Add	11.28	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31	13	13-0150	LF 8" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 8" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 8" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 8" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 8" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 8" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 10" x 10", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 10" x 12", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 10" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 10" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 10" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 10" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 10" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 10" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 12" x 12", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 12" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 12" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 12" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 12" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 12" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add LF 12" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	48.37 6.20 13.23 12.41 52.78 6.77 14.44 13.54 57.16 7.33 15.64 14.66 61.55 7.89 16.84 15.79 65.97 8.46 18.04 16.92 70.35 9.02 19.24 18.04 43.97 5.64 12.03 11.28 48.37 6.20 13.23 12.41 52.78 6.77 14.44 13.54 57.16 7.33 15.64 14.66 61.55 7.89 16.84 15.79 65.97 8.46 18.04 16.92 70.35 9.02 19.24 18.04 74.75 9.59 20.45 19.17 52.77 6.77 14.44 13.54 57.16 7.33 15.64 14.66 61.55 7.89 16.84 15.79 65.97 8.46 18.04 16.92 70.35 9.02 19.24 18.04 74.75 9.59 20.45 19.17 79.14 10.15 21.65 20.30	24.81 27.06 29.32 31.58 33.82 36.08 22.55 24.81 27.06 29.32 31.58 33.82 36.08 38.35 27.06 29.32 31.58 33.82 36.08 38.35 40.60

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0171	LF 14" x 14", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	61.55	31.58
		For Seal Class B, Add	7.89	
		For Seal Class A, Add	16.84	
		For Work In Restricted Working Space, Add	15.79	
23 31 13	13-0172	LF 14" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	65.97	33.82
		For Seal Class B, Add	8.46	
		For Seal Class A, Add	18.04	
		For Work In Restricted Working Space, Add	16.92	
23 31 13	13-0173	LF 14" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	70.35	36.08
		For Seal Class B, Add	9.02	
		For Seal Class A, Add	19.24	
		For Work In Restricted Working Space, Add	18.04	
23 31 13	13-0174	LF 14" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	74.75	38.35
		For Seal Class B, Add	9.59	
		For Seal Class A, Add	20.45	
		For Work In Restricted Working Space, Add	19.17	
23 31 13	13-0175	LF 14" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.14	40.60
		For Seal Class B, Add	10.15	
		For Seal Class A, Add	21.65	
		For Work In Restricted Working Space, Add	20.30	
23 31 13	13-0176	LF 14" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.55	42.86
		For Seal Class B, Add	10.71	
		For Seal Class A, Add	22.85	
		For Work In Restricted Working Space, Add	21.43	
23 31 13	13-0177	LF 16" x 16", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	70.35	36.08
		For Seal Class B, Add	9.02	
		For Seal Class A, Add	19.24	
		For Work In Restricted Working Space, Add	18.04	
23 31 13	13-0178	LF 16" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	74.75	38.35
		For Seal Class B, Add	9.59	
		For Seal Class A, Add	20.45	
		For Work In Restricted Working Space, Add	19.17	
23 31 13	13-0179	LF 16" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.14	40.60
		For Seal Class B, Add	10.15	
		For Seal Class A, Add	21.65	
		For Work In Restricted Working Space, Add	20.30	
23 31 13	13-0180	LF 16" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.55	42.86
		For Seal Class B, Add	10.71	
		For Seal Class A, Add	22.85	
		For Work In Restricted Working Space, Add	21.43	
23 31 13	13-0181	LF 16" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	87.94	45.12
		For Seal Class B, Add	11.28	
		For Seal Class A, Add	24.06	
		For Work In Restricted Working Space, Add	22.55	
23 31 13	13-0182	LF 18" x 18", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.14	40.60
		For Seal Class B, Add	10.15	
		For Seal Class A, Add	21.65	
		For Work In Restricted Working Space, Add	20.30	
23 31 13	13-0183	LF 18" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.55	42.86
		For Seal Class B, Add	10.71	
		For Seal Class A, Add	22.85	
		For Work In Restricted Working Space, Add	21.43	
23 31 13	13-0184	LF 18" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	87.94	45.12
		For Seal Class B, Add	11.28	
		For Seal Class A, Add	24.06	
		For Work In Restricted Working Space, Add	22.55	
23 31 13	13-0185	LF 18" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	92.33	47.36
		For Seal Class B, Add	11.84	
		For Seal Class A, Add	25.26	
		For Work In Restricted Working Space, Add	23.68	
23 31 13	13-0186	LF 20" x 20", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	87.94	45.12
		For Seal Class B, Add	11.28	
		For Seal Class A, Add	24.06	
		For Work In Restricted Working Space, Add	22.55	
23 31 13	13-0187	LF 20" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	92.33	47.36
		For Seal Class B, Add	11.84	
		For Seal Class A, Add	25.26	
		For Work In Restricted Working Space, Add	23.68	
23 31 13	13-0188	LF 20" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	96.72	49.62
		For Seal Class B, Add	12.41	
		For Seal Class A, Add	26.46	
		For Work In Restricted Working Space, Add	24.81	
23 31 13	13-0189	LF 22" x 22", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	96.72	49.62
		For Seal Class B, Add	12.41	
		For Seal Class A, Add	26.46	
		For Work In Restricted Working Space, Add	24.81	
23 31 13	13-0190	LF 22" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	101.13	51.87
		For Seal Class B, Add	12.97	
		For Seal Class A, Add	27.66	
		For Work In Restricted Working Space, Add	25.94	
23 31 13	13-0191	LF 24" x 24", 26 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	105.53	54.13
		For Seal Class B, Add	13.53	
		For Seal Class A, Add	28.87	
		For Work In Restricted Working Space, Add	27.07	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13	13-0192	24 Gauge Galvanized Steel Metal Ductwork ^(23 31 13 13-0014)		
23 31 13	13	13-0193	LF 4" x 4", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	26.59	14.00
			For Seal Class B, Add	3.50	
			For Seal Class A, Add	7.47	
			For Work In Restricted Working Space, Add	7.00	
23 31 13	13	13-0194	LF 4" x 6", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	33.24	17.49
			For Seal Class B, Add	4.38	
			For Seal Class A, Add	9.33	
			For Work In Restricted Working Space, Add	8.75	
23 31 13	13	13-0195	LF 4" x 8", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	39.88	21.00
			For Seal Class B, Add	5.25	
			For Seal Class A, Add	11.20	
			For Work In Restricted Working Space, Add	10.50	
23 31 13	13	13-0196	LF 4" x 10", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	46.53	24.50
			For Seal Class B, Add	6.12	
			For Seal Class A, Add	13.07	
			For Work In Restricted Working Space, Add	12.25	
23 31 13	13	13-0197	LF 4" x 12", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.18	28.01
			For Seal Class B, Add	7.00	
			For Seal Class A, Add	14.93	
			For Work In Restricted Working Space, Add	14.00	
23 31 13	13	13-0198	LF 4" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	59.82	31.50
			For Seal Class B, Add	7.88	
			For Seal Class A, Add	16.80	
			For Work In Restricted Working Space, Add	15.75	
23 31 13	13	13-0199	LF 4" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	66.48	35.00
			For Seal Class B, Add	8.75	
			For Seal Class A, Add	18.67	
			For Work In Restricted Working Space, Add	17.50	
23 31 13	13	13-0200	LF 6" x 6", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	39.88	21.00
			For Seal Class B, Add	5.25	
			For Seal Class A, Add	11.20	
			For Work In Restricted Working Space, Add	10.50	
23 31 13	13	13-0201	LF 6" x 8", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	46.53	24.50
			For Seal Class B, Add	6.12	
			For Seal Class A, Add	13.07	
			For Work In Restricted Working Space, Add	12.25	
23 31 13	13	13-0202	LF 6" x 10", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.18	28.01
			For Seal Class B, Add	7.00	
			For Seal Class A, Add	14.93	
			For Work In Restricted Working Space, Add	14.00	
23 31 13	13	13-0203	LF 6" x 12", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	59.82	31.50
			For Seal Class B, Add	7.88	
			For Seal Class A, Add	16.80	
			For Work In Restricted Working Space, Add	15.75	
23 31 13	13	13-0204	LF 6" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	66.48	35.00
			For Seal Class B, Add	8.75	
			For Seal Class A, Add	18.67	
			For Work In Restricted Working Space, Add	17.50	
23 31 13	13	13-0205	LF 6" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	73.12	38.50
			For Seal Class B, Add	9.63	
			For Seal Class A, Add	20.53	
			For Work In Restricted Working Space, Add	19.25	
23 31 13	13	13-0206	LF 8" x 8", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	53.18	28.01
			For Seal Class B, Add	7.00	
			For Seal Class A, Add	14.93	
			For Work In Restricted Working Space, Add	14.00	
23 31 13	13	13-0207	LF 8" x 10", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	59.82	31.50
			For Seal Class B, Add	7.88	
			For Seal Class A, Add	16.80	
			For Work In Restricted Working Space, Add	15.75	
23 31 13	13	13-0208	LF 8" x 12", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	66.48	35.00
			For Seal Class B, Add	8.75	
			For Seal Class A, Add	18.67	
			For Work In Restricted Working Space, Add	17.50	
23 31 13	13	13-0209	LF 8" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	73.12	38.50
			For Seal Class B, Add	9.63	
			For Seal Class A, Add	20.53	
			For Work In Restricted Working Space, Add	19.25	
23 31 13	13	13-0210	LF 8" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.77	42.00
			For Seal Class B, Add	10.50	
			For Seal Class A, Add	22.40	
			For Work In Restricted Working Space, Add	21.00	
23 31 13	13	13-0211	LF 8" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	86.41	45.50
			For Seal Class B, Add	11.37	
			For Seal Class A, Add	24.27	
			For Work In Restricted Working Space, Add	22.75	
23 31 13	13	13-0212	LF 8" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	93.06	49.01
			For Seal Class B, Add	12.25	
			For Seal Class A, Add	26.13	
			For Work In Restricted Working Space, Add	24.50	
23 31 13	13	13-0213	LF 8" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	99.71	52.50
			For Seal Class B, Add	13.13	
			For Seal Class A, Add	28.00	
			For Work In Restricted Working Space, Add	26.25	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0214	LF 8" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	106.36	56.00
		For Seal Class B, Add	14.00	
		For Seal Class A, Add	29.87	
		For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0215	LF 10" x 10", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	66.48	35.00
		For Seal Class B, Add	8.75	
		For Seal Class A, Add	18.67	
		For Work In Restricted Working Space, Add	17.50	
23 31 13	13-0216	LF 10" x 12", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	73.12	38.50
		For Seal Class B, Add	9.63	
		For Seal Class A, Add	20.53	
		For Work In Restricted Working Space, Add	19.25	
23 31 13	13-0217	LF 10" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.77	42.00
		For Seal Class B, Add	10.50	
		For Seal Class A, Add	22.40	
		For Work In Restricted Working Space, Add	21.00	
23 31 13	13-0218	LF 10" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	86.41	45.50
		For Seal Class B, Add	11.37	
		For Seal Class A, Add	24.27	
		For Work In Restricted Working Space, Add	22.75	
23 31 13	13-0219	LF 10" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	93.06	49.01
		For Seal Class B, Add	12.25	
		For Seal Class A, Add	26.13	
		For Work In Restricted Working Space, Add	24.50	
23 31 13	13-0220	LF 10" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	99.71	52.50
		For Seal Class B, Add	13.13	
		For Seal Class A, Add	28.00	
		For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0221	LF 10" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	106.36	56.00
		For Seal Class B, Add	14.00	
		For Seal Class A, Add	29.87	
		For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0222	LF 10" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	113.00	59.50
		For Seal Class B, Add	14.88	
		For Seal Class A, Add	31.73	
		For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0223	LF 10" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	119.66	63.00
		For Seal Class B, Add	15.75	
		For Seal Class A, Add	33.60	
		For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0224	LF 10" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	126.30	66.50
		For Seal Class B, Add	16.63	
		For Seal Class A, Add	35.47	
		For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0225	LF 10" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0226	LF 12" x 12", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	79.77	42.00
		For Seal Class B, Add	10.50	
		For Seal Class A, Add	22.40	
		For Work In Restricted Working Space, Add	21.00	
23 31 13	13-0227	LF 12" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	86.41	45.50
		For Seal Class B, Add	11.37	
		For Seal Class A, Add	24.27	
		For Work In Restricted Working Space, Add	22.75	
23 31 13	13-0228	LF 12" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	93.06	49.01
		For Seal Class B, Add	12.25	
		For Seal Class A, Add	26.13	
		For Work In Restricted Working Space, Add	24.50	
23 31 13	13-0229	LF 12" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	99.71	52.50
		For Seal Class B, Add	13.13	
		For Seal Class A, Add	28.00	
		For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0230	LF 12" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	106.36	56.00
		For Seal Class B, Add	14.00	
		For Seal Class A, Add	29.87	
		For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0231	LF 12" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	113.00	59.50
		For Seal Class B, Add	14.88	
		For Seal Class A, Add	31.73	
		For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0232	LF 12" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	119.66	63.00
		For Seal Class B, Add	15.75	
		For Seal Class A, Add	33.60	
		For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0233	LF 12" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	126.30	66.50
		For Seal Class B, Add	16.63	
		For Seal Class A, Add	35.47	
		For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0234	LF 12" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0235	LF	12" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	139.59	73.51
			For Seal Class B, Add	18.38	
			For Seal Class A, Add	39.20	
			For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0236	LF	14" x 14", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	93.06	49.01
			For Seal Class B, Add	12.25	
			For Seal Class A, Add	26.13	
			For Work In Restricted Working Space, Add	24.50	
23 31 13	13-0237	LF	14" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	99.71	52.50
			For Seal Class B, Add	13.13	
			For Seal Class A, Add	28.00	
			For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0238	LF	14" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	106.36	56.00
			For Seal Class B, Add	14.00	
			For Seal Class A, Add	29.87	
			For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0239	LF	14" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	113.00	59.50
			For Seal Class B, Add	14.88	
			For Seal Class A, Add	31.73	
			For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0240	LF	14" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	119.66	63.00
			For Seal Class B, Add	15.75	
			For Seal Class A, Add	33.60	
			For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0241	LF	14" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	126.30	66.50
			For Seal Class B, Add	16.63	
			For Seal Class A, Add	35.47	
			For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0242	LF	14" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
			For Seal Class B, Add	17.50	
			For Seal Class A, Add	37.33	
			For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0243	LF	14" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	139.59	73.51
			For Seal Class B, Add	18.38	
			For Seal Class A, Add	39.20	
			For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0244	LF	14" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.24	77.00
			For Seal Class B, Add	19.25	
			For Seal Class A, Add	41.07	
			For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0245	LF	16" x 16", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	106.36	56.00
			For Seal Class B, Add	14.00	
			For Seal Class A, Add	29.87	
			For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0246	LF	16" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	113.00	59.50
			For Seal Class B, Add	14.88	
			For Seal Class A, Add	31.73	
			For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0247	LF	16" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	119.66	63.00
			For Seal Class B, Add	15.75	
			For Seal Class A, Add	33.60	
			For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0248	LF	16" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	126.30	66.50
			For Seal Class B, Add	16.63	
			For Seal Class A, Add	35.47	
			For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0249	LF	16" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
			For Seal Class B, Add	17.50	
			For Seal Class A, Add	37.33	
			For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0250	LF	16" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	139.59	73.51
			For Seal Class B, Add	18.38	
			For Seal Class A, Add	39.20	
			For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0251	LF	16" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.24	77.00
			For Seal Class B, Add	19.25	
			For Seal Class A, Add	41.07	
			For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0252	LF	16" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.89	80.50
			For Seal Class B, Add	20.13	
			For Seal Class A, Add	42.93	
			For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0253	LF	18" x 18", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	119.66	63.00
			For Seal Class B, Add	15.75	
			For Seal Class A, Add	33.60	
			For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0254	LF	18" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	126.30	66.50
			For Seal Class B, Add	16.63	
			For Seal Class A, Add	35.47	
			For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0255	LF	18" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
			For Seal Class B, Add	17.50	
			For Seal Class A, Add	37.33	
			For Work In Restricted Working Space, Add	35.00	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0256	LF 18" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	139.59	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0257	LF 18" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.24	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0258	LF 18" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.89	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0259	LF 18" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	159.54	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0260	LF 20" x 20", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	132.94	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0261	LF 20" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	139.59	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0262	LF 20" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.24	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0263	LF 20" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.89	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0264	LF 20" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	159.54	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0265	LF 20" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	166.18	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13	13-0266	LF 22" x 22", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.24	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0267	LF 22" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.89	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0268	LF 22" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	159.54	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0269	LF 22" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	166.18	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13	13-0270	LF 22" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	172.84	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13	13-0271	LF 24" x 24", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	159.54	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0272	LF 24" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	166.18	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13	13-0273	LF 24" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	172.84	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13	13-0274	LF 24" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	179.48	94.51
		For Seal Class B, Add	23.63	
		For Seal Class A, Add	50.40	
		For Work In Restricted Working Space, Add	47.25	
23 31 13	13-0275	LF 26" x 26", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	172.84	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13	13-0276	LF 26" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	179.48	94.51
		For Seal Class B, Add	23.63	
		For Seal Class A, Add	50.40	
		For Work In Restricted Working Space, Add	47.25	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0277	LF	26" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	186.11	98.00
		For Seal Class B, Add	.....	24.50	
		For Seal Class A, Add	.....	52.27	
		For Work In Restricted Working Space, Add	.....	49.00	
23 31 13 13-0278	LF	28" x 28", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	186.11	98.00
		For Seal Class B, Add	.....	24.50	
		For Seal Class A, Add	.....	52.27	
		For Work In Restricted Working Space, Add	.....	49.00	
23 31 13 13-0279	LF	28" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	192.77	101.50
		For Seal Class B, Add	.....	25.38	
		For Seal Class A, Add	.....	54.13	
		For Work In Restricted Working Space, Add	.....	50.75	
23 31 13 13-0280	LF	30" x 30", 24 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	199.42	105.01
		For Seal Class B, Add	.....	26.25	
		For Seal Class A, Add	.....	56.00	
		For Work In Restricted Working Space, Add	.....	52.50	
23 31 13 13-0281		22 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)			
23 31 13 13-0282	LF	4" x 4", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	27.30	14.00
		For Seal Class B, Add	.....	3.50	
		For Seal Class A, Add	.....	7.47	
		For Work In Restricted Working Space, Add	.....	7.00	
23 31 13 13-0283	LF	4" x 6", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	34.12	17.49
		For Seal Class B, Add	.....	4.38	
		For Seal Class A, Add	.....	9.33	
		For Work In Restricted Working Space, Add	.....	8.75	
23 31 13 13-0284	LF	4" x 8", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	40.94	21.00
		For Seal Class B, Add	.....	5.25	
		For Seal Class A, Add	.....	11.20	
		For Work In Restricted Working Space, Add	.....	10.50	
23 31 13 13-0285	LF	4" x 10", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	47.76	24.50
		For Seal Class B, Add	.....	6.12	
		For Seal Class A, Add	.....	13.07	
		For Work In Restricted Working Space, Add	.....	12.25	
23 31 13 13-0286	LF	4" x 12", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	54.59	28.01
		For Seal Class B, Add	.....	7.00	
		For Seal Class A, Add	.....	14.93	
		For Work In Restricted Working Space, Add	.....	14.00	
23 31 13 13-0287	LF	4" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	61.41	31.50
		For Seal Class B, Add	.....	7.88	
		For Seal Class A, Add	.....	16.80	
		For Work In Restricted Working Space, Add	.....	15.75	
23 31 13 13-0288	LF	4" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	68.24	35.00
		For Seal Class B, Add	.....	8.75	
		For Seal Class A, Add	.....	18.67	
		For Work In Restricted Working Space, Add	.....	17.50	
23 31 13 13-0289	LF	6" x 6", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	40.94	21.00
		For Seal Class B, Add	.....	5.25	
		For Seal Class A, Add	.....	11.20	
		For Work In Restricted Working Space, Add	.....	10.50	
23 31 13 13-0290	LF	6" x 8", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	47.76	24.50
		For Seal Class B, Add	.....	6.12	
		For Seal Class A, Add	.....	13.07	
		For Work In Restricted Working Space, Add	.....	12.25	
23 31 13 13-0291	LF	6" x 10", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	54.59	28.01
		For Seal Class B, Add	.....	7.00	
		For Seal Class A, Add	.....	14.93	
		For Work In Restricted Working Space, Add	.....	14.00	
23 31 13 13-0292	LF	6" x 12", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	61.41	31.50
		For Seal Class B, Add	.....	7.88	
		For Seal Class A, Add	.....	16.80	
		For Work In Restricted Working Space, Add	.....	15.75	
23 31 13 13-0293	LF	6" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	68.24	35.00
		For Seal Class B, Add	.....	8.75	
		For Seal Class A, Add	.....	18.67	
		For Work In Restricted Working Space, Add	.....	17.50	
23 31 13 13-0294	LF	6" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	75.06	38.50
		For Seal Class B, Add	.....	9.63	
		For Seal Class A, Add	.....	20.53	
		For Work In Restricted Working Space, Add	.....	19.25	
23 31 13 13-0295	LF	8" x 8", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	54.59	28.01
		For Seal Class B, Add	.....	7.00	
		For Seal Class A, Add	.....	14.93	
		For Work In Restricted Working Space, Add	.....	14.00	
23 31 13 13-0296	LF	8" x 10", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	61.41	31.50
		For Seal Class B, Add	.....	7.88	
		For Seal Class A, Add	.....	16.80	
		For Work In Restricted Working Space, Add	.....	15.75	
23 31 13 13-0297	LF	8" x 12", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	68.24	35.00
		For Seal Class B, Add	.....	8.75	
		For Seal Class A, Add	.....	18.67	
		For Work In Restricted Working Space, Add	.....	17.50	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0298	LF	8" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	75.06	38.50
		For Seal Class B, Add	9.63	
		For Seal Class A, Add	20.53	
		For Work In Restricted Working Space, Add	19.25	
23 31 13 13-0299	LF	8" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	81.89	42.00
		For Seal Class B, Add	10.50	
		For Seal Class A, Add	22.40	
		For Work In Restricted Working Space, Add	21.00	
23 31 13 13-0300	LF	8" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	88.70	45.50
		For Seal Class B, Add	11.37	
		For Seal Class A, Add	24.27	
		For Work In Restricted Working Space, Add	22.75	
23 31 13 13-0301	LF	8" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	95.53	49.01
		For Seal Class B, Add	12.25	
		For Seal Class A, Add	26.13	
		For Work In Restricted Working Space, Add	24.50	
23 31 13 13-0302	LF	8" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	102.35	52.50
		For Seal Class B, Add	13.13	
		For Seal Class A, Add	28.00	
		For Work In Restricted Working Space, Add	26.25	
23 31 13 13-0303	LF	8" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	109.18	56.00
		For Seal Class B, Add	14.00	
		For Seal Class A, Add	29.87	
		For Work In Restricted Working Space, Add	28.00	
23 31 13 13-0304	LF	10" x 10", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	68.24	35.00
		For Seal Class B, Add	8.75	
		For Seal Class A, Add	18.67	
		For Work In Restricted Working Space, Add	17.50	
23 31 13 13-0305	LF	10" x 12", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	75.06	38.50
		For Seal Class B, Add	9.63	
		For Seal Class A, Add	20.53	
		For Work In Restricted Working Space, Add	19.25	
23 31 13 13-0306	LF	10" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	81.89	42.00
		For Seal Class B, Add	10.50	
		For Seal Class A, Add	22.40	
		For Work In Restricted Working Space, Add	21.00	
23 31 13 13-0307	LF	10" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	88.70	45.50
		For Seal Class B, Add	11.37	
		For Seal Class A, Add	24.27	
		For Work In Restricted Working Space, Add	22.75	
23 31 13 13-0308	LF	10" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	95.53	49.01
		For Seal Class B, Add	12.25	
		For Seal Class A, Add	26.13	
		For Work In Restricted Working Space, Add	24.50	
23 31 13 13-0309	LF	10" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	102.35	52.50
		For Seal Class B, Add	13.13	
		For Seal Class A, Add	28.00	
		For Work In Restricted Working Space, Add	26.25	
23 31 13 13-0310	LF	10" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	109.18	56.00
		For Seal Class B, Add	14.00	
		For Seal Class A, Add	29.87	
		For Work In Restricted Working Space, Add	28.00	
23 31 13 13-0311	LF	10" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.99	59.50
		For Seal Class B, Add	14.88	
		For Seal Class A, Add	31.73	
		For Work In Restricted Working Space, Add	29.75	
23 31 13 13-0312	LF	10" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	122.82	63.00
		For Seal Class B, Add	15.75	
		For Seal Class A, Add	33.60	
		For Work In Restricted Working Space, Add	31.50	
23 31 13 13-0313	LF	10" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	129.64	66.50
		For Seal Class B, Add	16.63	
		For Seal Class A, Add	35.47	
		For Work In Restricted Working Space, Add	33.25	
23 31 13 13-0314	LF	10" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.46	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13 13-0315	LF	10" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	143.28	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13 13-0316	LF	12" x 12", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	81.89	42.00
		For Seal Class B, Add	10.50	
		For Seal Class A, Add	22.40	
		For Work In Restricted Working Space, Add	21.00	
23 31 13 13-0317	LF	12" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	88.70	45.50
		For Seal Class B, Add	11.37	
		For Seal Class A, Add	24.27	
		For Work In Restricted Working Space, Add	22.75	
23 31 13 13-0318	LF	12" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	95.53	49.01
		For Seal Class B, Add	12.25	
		For Seal Class A, Add	26.13	
		For Work In Restricted Working Space, Add	24.50	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0319	LF	12" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	102.35	52.50
			For Seal Class B, Add	13.13	
			For Seal Class A, Add	28.00	
			For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0320	LF	12" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	109.18	56.00
			For Seal Class B, Add	14.00	
			For Seal Class A, Add	29.87	
			For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0321	LF	12" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.99	59.50
			For Seal Class B, Add	14.88	
			For Seal Class A, Add	31.73	
			For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0322	LF	12" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	122.82	63.00
			For Seal Class B, Add	15.75	
			For Seal Class A, Add	33.60	
			For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0323	LF	12" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	129.64	66.50
			For Seal Class B, Add	16.63	
			For Seal Class A, Add	35.47	
			For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0324	LF	12" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.46	70.01
			For Seal Class B, Add	17.50	
			For Seal Class A, Add	37.33	
			For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0325	LF	12" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	143.28	73.51
			For Seal Class B, Add	18.38	
			For Seal Class A, Add	39.20	
			For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0326	LF	12" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	150.11	77.00
			For Seal Class B, Add	19.25	
			For Seal Class A, Add	41.07	
			For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0327	LF	12" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.93	80.50
			For Seal Class B, Add	20.13	
			For Seal Class A, Add	42.93	
			For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0328	LF	12" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76	84.01
			For Seal Class B, Add	21.00	
			For Seal Class A, Add	44.80	
			For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0329	LF	14" x 14", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	95.53	49.01
			For Seal Class B, Add	12.25	
			For Seal Class A, Add	26.13	
			For Work In Restricted Working Space, Add	24.50	
23 31 13	13-0330	LF	14" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	102.35	52.50
			For Seal Class B, Add	13.13	
			For Seal Class A, Add	28.00	
			For Work In Restricted Working Space, Add	26.25	
23 31 13	13-0331	LF	14" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	109.18	56.00
			For Seal Class B, Add	14.00	
			For Seal Class A, Add	29.87	
			For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0332	LF	14" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.99	59.50
			For Seal Class B, Add	14.88	
			For Seal Class A, Add	31.73	
			For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0333	LF	14" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	122.82	63.00
			For Seal Class B, Add	15.75	
			For Seal Class A, Add	33.60	
			For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0334	LF	14" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	129.64	66.50
			For Seal Class B, Add	16.63	
			For Seal Class A, Add	35.47	
			For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0335	LF	14" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.46	70.01
			For Seal Class B, Add	17.50	
			For Seal Class A, Add	37.33	
			For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0336	LF	14" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	143.28	73.51
			For Seal Class B, Add	18.38	
			For Seal Class A, Add	39.20	
			For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0337	LF	14" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	150.11	77.00
			For Seal Class B, Add	19.25	
			For Seal Class A, Add	41.07	
			For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0338	LF	14" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.93	80.50
			For Seal Class B, Add	20.13	
			For Seal Class A, Add	42.93	
			For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0339	LF	14" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76	84.01
			For Seal Class B, Add	21.00	
			For Seal Class A, Add	44.80	
			For Work In Restricted Working Space, Add	42.00	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0340	LF 14" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	170.58	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13	13-0341	LF 16" x 16", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	109.18	56.00
		For Seal Class B, Add	14.00	
		For Seal Class A, Add	29.87	
		For Work In Restricted Working Space, Add	28.00	
23 31 13	13-0342	LF 16" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.99	59.50
		For Seal Class B, Add	14.88	
		For Seal Class A, Add	31.73	
		For Work In Restricted Working Space, Add	29.75	
23 31 13	13-0343	LF 16" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	122.82	63.00
		For Seal Class B, Add	15.75	
		For Seal Class A, Add	33.60	
		For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0344	LF 16" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	129.64	66.50
		For Seal Class B, Add	16.63	
		For Seal Class A, Add	35.47	
		For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0345	LF 16" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.46	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0346	LF 16" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	143.28	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0347	LF 16" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	150.11	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0348	LF 16" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.93	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0349	LF 16" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0350	LF 16" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	170.58	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13	13-0351	LF 16" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.41	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13	13-0352	LF 16" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.23	94.51
		For Seal Class B, Add	23.63	
		For Seal Class A, Add	50.40	
		For Work In Restricted Working Space, Add	47.25	
23 31 13	13-0353	LF 16" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04	98.00
		For Seal Class B, Add	24.50	
		For Seal Class A, Add	52.27	
		For Work In Restricted Working Space, Add	49.00	
23 31 13	13-0354	LF 16" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87	101.50
		For Seal Class B, Add	25.38	
		For Seal Class A, Add	54.13	
		For Work In Restricted Working Space, Add	50.75	
23 31 13	13-0355	LF 16" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01
		For Seal Class B, Add	26.25	
		For Seal Class A, Add	56.00	
		For Work In Restricted Working Space, Add	52.50	
23 31 13	13-0356	LF 18" x 18", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	122.82	63.00
		For Seal Class B, Add	15.75	
		For Seal Class A, Add	33.60	
		For Work In Restricted Working Space, Add	31.50	
23 31 13	13-0357	LF 18" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	129.64	66.50
		For Seal Class B, Add	16.63	
		For Seal Class A, Add	35.47	
		For Work In Restricted Working Space, Add	33.25	
23 31 13	13-0358	LF 18" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.46	70.01
		For Seal Class B, Add	17.50	
		For Seal Class A, Add	37.33	
		For Work In Restricted Working Space, Add	35.00	
23 31 13	13-0359	LF 18" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	143.28	73.51
		For Seal Class B, Add	18.38	
		For Seal Class A, Add	39.20	
		For Work In Restricted Working Space, Add	36.75	
23 31 13	13-0360	LF 18" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	150.11	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0361	LF	18" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	156.93	80.50
		For Seal Class B, Add	.....	20.13	
		For Seal Class A, Add	.....	42.93	
		For Work In Restricted Working Space, Add	.....	40.25	
23 31 13 13-0362	LF	18" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	163.76	84.01
		For Seal Class B, Add	.....	21.00	
		For Seal Class A, Add	.....	44.80	
		For Work In Restricted Working Space, Add	.....	42.00	
23 31 13 13-0363	LF	18" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	170.58	87.50
		For Seal Class B, Add	.....	21.88	
		For Seal Class A, Add	.....	46.67	
		For Work In Restricted Working Space, Add	.....	43.75	
23 31 13 13-0364	LF	18" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	177.41	91.01
		For Seal Class B, Add	.....	22.75	
		For Seal Class A, Add	.....	48.54	
		For Work In Restricted Working Space, Add	.....	45.50	
23 31 13 13-0365	LF	18" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	184.23	94.51
		For Seal Class B, Add	.....	23.63	
		For Seal Class A, Add	.....	50.40	
		For Work In Restricted Working Space, Add	.....	47.25	
23 31 13 13-0366	LF	18" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	191.04	98.00
		For Seal Class B, Add	.....	24.50	
		For Seal Class A, Add	.....	52.27	
		For Work In Restricted Working Space, Add	.....	49.00	
23 31 13 13-0367	LF	18" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	197.87	101.50
		For Seal Class B, Add	.....	25.38	
		For Seal Class A, Add	.....	54.13	
		For Work In Restricted Working Space, Add	.....	50.75	
23 31 13 13-0368	LF	18" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	204.70	105.01
		For Seal Class B, Add	.....	26.25	
		For Seal Class A, Add	.....	56.00	
		For Work In Restricted Working Space, Add	.....	52.50	
23 31 13 13-0369	LF	18" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	211.52	108.50
		For Seal Class B, Add	.....	27.13	
		For Seal Class A, Add	.....	57.87	
		For Work In Restricted Working Space, Add	.....	54.25	
23 31 13 13-0370	LF	18" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	218.34	112.01
		For Seal Class B, Add	.....	28.00	
		For Seal Class A, Add	.....	59.73	
		For Work In Restricted Working Space, Add	.....	56.00	
23 31 13 13-0371	LF	20" x 20", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	136.46	70.01
		For Seal Class B, Add	.....	17.50	
		For Seal Class A, Add	.....	37.33	
		For Work In Restricted Working Space, Add	.....	35.00	
23 31 13 13-0372	LF	20" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	143.28	73.51
		For Seal Class B, Add	.....	18.38	
		For Seal Class A, Add	.....	39.20	
		For Work In Restricted Working Space, Add	.....	36.75	
23 31 13 13-0373	LF	20" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	150.11	77.00
		For Seal Class B, Add	.....	19.25	
		For Seal Class A, Add	.....	41.07	
		For Work In Restricted Working Space, Add	.....	38.50	
23 31 13 13-0374	LF	20" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	156.93	80.50
		For Seal Class B, Add	.....	20.13	
		For Seal Class A, Add	.....	42.93	
		For Work In Restricted Working Space, Add	.....	40.25	
23 31 13 13-0375	LF	20" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	163.76	84.01
		For Seal Class B, Add	.....	21.00	
		For Seal Class A, Add	.....	44.80	
		For Work In Restricted Working Space, Add	.....	42.00	
23 31 13 13-0376	LF	20" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	170.58	87.50
		For Seal Class B, Add	.....	21.88	
		For Seal Class A, Add	.....	46.67	
		For Work In Restricted Working Space, Add	.....	43.75	
23 31 13 13-0377	LF	20" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	177.41	91.01
		For Seal Class B, Add	.....	22.75	
		For Seal Class A, Add	.....	48.54	
		For Work In Restricted Working Space, Add	.....	45.50	
23 31 13 13-0378	LF	20" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	184.23	94.51
		For Seal Class B, Add	.....	23.63	
		For Seal Class A, Add	.....	50.40	
		For Work In Restricted Working Space, Add	.....	47.25	
23 31 13 13-0379	LF	20" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	191.04	98.00
		For Seal Class B, Add	.....	24.50	
		For Seal Class A, Add	.....	52.27	
		For Work In Restricted Working Space, Add	.....	49.00	
23 31 13 13-0380	LF	20" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	197.87	101.50
		For Seal Class B, Add	.....	25.38	
		For Seal Class A, Add	.....	54.13	
		For Work In Restricted Working Space, Add	.....	50.75	
23 31 13 13-0381	LF	20" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	204.70	105.01
		For Seal Class B, Add	.....	26.25	
		For Seal Class A, Add	.....	56.00	
		For Work In Restricted Working Space, Add	.....	52.50	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0382	LF 20" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52	108.50
		For Seal Class B, Add	27.13	
		For Seal Class A, Add	57.87	
		For Work In Restricted Working Space, Add	54.25	
23 31 13	13-0383	LF 20" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01
		For Seal Class B, Add	28.00	
		For Seal Class A, Add	59.73	
		For Work In Restricted Working Space, Add	56.00	
23 31 13	13-0384	LF 20" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51
		For Seal Class B, Add	28.88	
		For Seal Class A, Add	61.60	
		For Work In Restricted Working Space, Add	57.75	
23 31 13	13-0385	LF 20" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01
		For Seal Class B, Add	29.75	
		For Seal Class A, Add	63.47	
		For Work In Restricted Working Space, Add	59.50	
23 31 13	13-0386	LF 22" x 22", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	150.11	77.00
		For Seal Class B, Add	19.25	
		For Seal Class A, Add	41.07	
		For Work In Restricted Working Space, Add	38.50	
23 31 13	13-0387	LF 22" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.93	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.93	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0388	LF 22" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0389	LF 22" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	170.58	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13	13-0390	LF 22" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.41	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	
23 31 13	13-0391	LF 22" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.23	94.51
		For Seal Class B, Add	23.63	
		For Seal Class A, Add	50.40	
		For Work In Restricted Working Space, Add	47.25	
23 31 13	13-0392	LF 22" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04	98.00
		For Seal Class B, Add	24.50	
		For Seal Class A, Add	52.27	
		For Work In Restricted Working Space, Add	49.00	
23 31 13	13-0393	LF 22" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87	101.50
		For Seal Class B, Add	25.38	
		For Seal Class A, Add	54.13	
		For Work In Restricted Working Space, Add	50.75	
23 31 13	13-0394	LF 22" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01
		For Seal Class B, Add	26.25	
		For Seal Class A, Add	56.00	
		For Work In Restricted Working Space, Add	52.50	
23 31 13	13-0395	LF 22" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52	108.50
		For Seal Class B, Add	27.13	
		For Seal Class A, Add	57.87	
		For Work In Restricted Working Space, Add	54.25	
23 31 13	13-0396	LF 22" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01
		For Seal Class B, Add	28.00	
		For Seal Class A, Add	59.73	
		For Work In Restricted Working Space, Add	56.00	
23 31 13	13-0397	LF 22" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51
		For Seal Class B, Add	28.88	
		For Seal Class A, Add	61.60	
		For Work In Restricted Working Space, Add	57.75	
23 31 13	13-0398	LF 22" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01
		For Seal Class B, Add	29.75	
		For Seal Class A, Add	63.47	
		For Work In Restricted Working Space, Add	59.50	
23 31 13	13-0399	LF 22" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50
		For Seal Class B, Add	30.63	
		For Seal Class A, Add	65.33	
		For Work In Restricted Working Space, Add	61.25	
23 31 13	13-0400	LF 24" x 24", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	163.76	84.01
		For Seal Class B, Add	21.00	
		For Seal Class A, Add	44.80	
		For Work In Restricted Working Space, Add	42.00	
23 31 13	13-0401	LF 24" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	170.58	87.50
		For Seal Class B, Add	21.88	
		For Seal Class A, Add	46.67	
		For Work In Restricted Working Space, Add	43.75	
23 31 13	13-0402	LF 24" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.41	91.01
		For Seal Class B, Add	22.75	
		For Seal Class A, Add	48.54	
		For Work In Restricted Working Space, Add	45.50	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0403	LF	24" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.23	94.51	
		For Seal Class B, Add	23.63		
		For Seal Class A, Add	50.40		
		For Work In Restricted Working Space, Add	47.25		
23 31 13 13-0404	LF	24" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04	98.00	
		For Seal Class B, Add	24.50		
		For Seal Class A, Add	52.27		
		For Work In Restricted Working Space, Add	49.00		
23 31 13 13-0405	LF	24" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87	101.50	
		For Seal Class B, Add	25.38		
		For Seal Class A, Add	54.13		
		For Work In Restricted Working Space, Add	50.75		
23 31 13 13-0406	LF	24" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01	
		For Seal Class B, Add	26.25		
		For Seal Class A, Add	56.00		
		For Work In Restricted Working Space, Add	52.50		
23 31 13 13-0407	LF	24" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52	108.50	
		For Seal Class B, Add	27.13		
		For Seal Class A, Add	57.87		
		For Work In Restricted Working Space, Add	54.25		
23 31 13 13-0408	LF	24" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01	
		For Seal Class B, Add	28.00		
		For Seal Class A, Add	59.73		
		For Work In Restricted Working Space, Add	56.00		
23 31 13 13-0409	LF	24" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51	
		For Seal Class B, Add	28.88		
		For Seal Class A, Add	61.60		
		For Work In Restricted Working Space, Add	57.75		
23 31 13 13-0410	LF	24" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01	
		For Seal Class B, Add	29.75		
		For Seal Class A, Add	63.47		
		For Work In Restricted Working Space, Add	59.50		
23 31 13 13-0411	LF	24" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50	
		For Seal Class B, Add	30.63		
		For Seal Class A, Add	65.33		
		For Work In Restricted Working Space, Add	61.25		
23 31 13 13-0412	LF	24" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01	
		For Seal Class B, Add	31.50		
		For Seal Class A, Add	67.20		
		For Work In Restricted Working Space, Add	63.00		
23 31 13 13-0413	LF	26" x 26", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.41	91.01	
		For Seal Class B, Add	22.75		
		For Seal Class A, Add	48.54		
		For Work In Restricted Working Space, Add	45.50		
23 31 13 13-0414	LF	26" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.23	94.51	
		For Seal Class B, Add	23.63		
		For Seal Class A, Add	50.40		
		For Work In Restricted Working Space, Add	47.25		
23 31 13 13-0415	LF	26" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04	98.00	
		For Seal Class B, Add	24.50		
		For Seal Class A, Add	52.27		
		For Work In Restricted Working Space, Add	49.00		
23 31 13 13-0416	LF	26" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87	101.50	
		For Seal Class B, Add	25.38		
		For Seal Class A, Add	54.13		
		For Work In Restricted Working Space, Add	50.75		
23 31 13 13-0417	LF	26" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01	
		For Seal Class B, Add	26.25		
		For Seal Class A, Add	56.00		
		For Work In Restricted Working Space, Add	52.50		
23 31 13 13-0418	LF	26" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52	108.50	
		For Seal Class B, Add	27.13		
		For Seal Class A, Add	57.87		
		For Work In Restricted Working Space, Add	54.25		
23 31 13 13-0419	LF	26" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01	
		For Seal Class B, Add	28.00		
		For Seal Class A, Add	59.73		
		For Work In Restricted Working Space, Add	56.00		
23 31 13 13-0420	LF	26" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51	
		For Seal Class B, Add	28.88		
		For Seal Class A, Add	61.60		
		For Work In Restricted Working Space, Add	57.75		
23 31 13 13-0421	LF	26" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01	
		For Seal Class B, Add	29.75		
		For Seal Class A, Add	63.47		
		For Work In Restricted Working Space, Add	59.50		
23 31 13 13-0422	LF	26" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50	
		For Seal Class B, Add	30.63		
		For Seal Class A, Add	65.33		
		For Work In Restricted Working Space, Add	61.25		
23 31 13 13-0423	LF	26" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01	
		For Seal Class B, Add	31.50		
		For Seal Class A, Add	67.20		
		For Work In Restricted Working Space, Add	63.00		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0424	LF 26" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51
		For Seal Class B, Add	32.38	
		For Seal Class A, Add	69.07	
		For Work In Restricted Working Space, Add	64.76	
23 31 13	13-0425	LF 28" x 28", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	191.04	98.00
		For Seal Class B, Add	24.50	
		For Seal Class A, Add	52.27	
		For Work In Restricted Working Space, Add	49.00	
23 31 13	13-0426	LF 28" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	197.87	101.50
		For Seal Class B, Add	25.38	
		For Seal Class A, Add	54.13	
		For Work In Restricted Working Space, Add	50.75	
23 31 13	13-0427	LF 28" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01
		For Seal Class B, Add	26.25	
		For Seal Class A, Add	56.00	
		For Work In Restricted Working Space, Add	52.50	
23 31 13	13-0428	LF 28" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52	108.50
		For Seal Class B, Add	27.13	
		For Seal Class A, Add	57.87	
		For Work In Restricted Working Space, Add	54.25	
23 31 13	13-0429	LF 28" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01
		For Seal Class B, Add	28.00	
		For Seal Class A, Add	59.73	
		For Work In Restricted Working Space, Add	56.00	
23 31 13	13-0430	LF 28" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51
		For Seal Class B, Add	28.88	
		For Seal Class A, Add	61.60	
		For Work In Restricted Working Space, Add	57.75	
23 31 13	13-0431	LF 28" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01
		For Seal Class B, Add	29.75	
		For Seal Class A, Add	63.47	
		For Work In Restricted Working Space, Add	59.50	
23 31 13	13-0432	LF 28" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50
		For Seal Class B, Add	30.63	
		For Seal Class A, Add	65.33	
		For Work In Restricted Working Space, Add	61.25	
23 31 13	13-0433	LF 28" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01
		For Seal Class B, Add	31.50	
		For Seal Class A, Add	67.20	
		For Work In Restricted Working Space, Add	63.00	
23 31 13	13-0434	LF 28" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51
		For Seal Class B, Add	32.38	
		For Seal Class A, Add	69.07	
		For Work In Restricted Working Space, Add	64.76	
23 31 13	13-0435	LF 28" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01
		For Seal Class B, Add	33.25	
		For Seal Class A, Add	70.94	
		For Work In Restricted Working Space, Add	66.50	
23 31 13	13-0436	LF 30" x 30", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	204.70	105.01
		For Seal Class B, Add	26.25	
		For Seal Class A, Add	56.00	
		For Work In Restricted Working Space, Add	52.50	
23 31 13	13-0437	LF 30" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	211.52	108.50
		For Seal Class B, Add	27.13	
		For Seal Class A, Add	57.87	
		For Work In Restricted Working Space, Add	54.25	
23 31 13	13-0438	LF 30" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01
		For Seal Class B, Add	28.00	
		For Seal Class A, Add	59.73	
		For Work In Restricted Working Space, Add	56.00	
23 31 13	13-0439	LF 30" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51
		For Seal Class B, Add	28.88	
		For Seal Class A, Add	61.60	
		For Work In Restricted Working Space, Add	57.75	
23 31 13	13-0440	LF 30" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01
		For Seal Class B, Add	29.75	
		For Seal Class A, Add	63.47	
		For Work In Restricted Working Space, Add	59.50	
23 31 13	13-0441	LF 30" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50
		For Seal Class B, Add	30.63	
		For Seal Class A, Add	65.33	
		For Work In Restricted Working Space, Add	61.25	
23 31 13	13-0442	LF 30" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01
		For Seal Class B, Add	31.50	
		For Seal Class A, Add	67.20	
		For Work In Restricted Working Space, Add	63.00	
23 31 13	13-0443	LF 30" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51
		For Seal Class B, Add	32.38	
		For Seal Class A, Add	69.07	
		For Work In Restricted Working Space, Add	64.76	
23 31 13	13-0444	LF 30" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01
		For Seal Class B, Add	33.25	
		For Seal Class A, Add	70.94	
		For Work In Restricted Working Space, Add	66.50	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0445	LF	30" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	266.11	136.51	
		For Seal Class B, Add	34.13		
		For Seal Class A, Add	72.80		
		For Work In Restricted Working Space, Add	68.25		
23 31 13 13-0446	LF	32" x 32", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	218.34	112.01	
		For Seal Class B, Add	28.00		
		For Seal Class A, Add	59.73		
		For Work In Restricted Working Space, Add	56.00		
23 31 13 13-0447	LF	32" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.17	115.51	
		For Seal Class B, Add	28.88		
		For Seal Class A, Add	61.60		
		For Work In Restricted Working Space, Add	57.75		
23 31 13 13-0448	LF	32" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01	
		For Seal Class B, Add	29.75		
		For Seal Class A, Add	63.47		
		For Work In Restricted Working Space, Add	59.50		
23 31 13 13-0449	LF	32" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50	
		For Seal Class B, Add	30.63		
		For Seal Class A, Add	65.33		
		For Work In Restricted Working Space, Add	61.25		
23 31 13 13-0450	LF	32" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01	
		For Seal Class B, Add	31.50		
		For Seal Class A, Add	67.20		
		For Work In Restricted Working Space, Add	63.00		
23 31 13 13-0451	LF	32" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51	
		For Seal Class B, Add	32.38		
		For Seal Class A, Add	69.07		
		For Work In Restricted Working Space, Add	64.76		
23 31 13 13-0452	LF	32" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01	
		For Seal Class B, Add	33.25		
		For Seal Class A, Add	70.94		
		For Work In Restricted Working Space, Add	66.50		
23 31 13 13-0453	LF	32" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	266.11	136.51	
		For Seal Class B, Add	34.13		
		For Seal Class A, Add	72.80		
		For Work In Restricted Working Space, Add	68.25		
23 31 13 13-0454	LF	32" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.93	140.01	
		For Seal Class B, Add	35.00		
		For Seal Class A, Add	74.67		
		For Work In Restricted Working Space, Add	70.00		
23 31 13 13-0455	LF	34" x 34", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	231.99	119.01	
		For Seal Class B, Add	29.75		
		For Seal Class A, Add	63.47		
		For Work In Restricted Working Space, Add	59.50		
23 31 13 13-0456	LF	34" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	238.81	122.50	
		For Seal Class B, Add	30.63		
		For Seal Class A, Add	65.33		
		For Work In Restricted Working Space, Add	61.25		
23 31 13 13-0457	LF	34" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01	
		For Seal Class B, Add	31.50		
		For Seal Class A, Add	67.20		
		For Work In Restricted Working Space, Add	63.00		
23 31 13 13-0458	LF	34" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51	
		For Seal Class B, Add	32.38		
		For Seal Class A, Add	69.07		
		For Work In Restricted Working Space, Add	64.76		
23 31 13 13-0459	LF	34" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01	
		For Seal Class B, Add	33.25		
		For Seal Class A, Add	70.94		
		For Work In Restricted Working Space, Add	66.50		
23 31 13 13-0460	LF	34" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	266.11	136.51	
		For Seal Class B, Add	34.13		
		For Seal Class A, Add	72.80		
		For Work In Restricted Working Space, Add	68.25		
23 31 13 13-0461	LF	34" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.93	140.01	
		For Seal Class B, Add	35.00		
		For Seal Class A, Add	74.67		
		For Work In Restricted Working Space, Add	70.00		
23 31 13 13-0462	LF	34" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	279.76	143.50	
		For Seal Class B, Add	35.88		
		For Seal Class A, Add	76.54		
		For Work In Restricted Working Space, Add	71.75		
23 31 13 13-0463	LF	36" x 36", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	245.63	126.01	
		For Seal Class B, Add	31.50		
		For Seal Class A, Add	67.20		
		For Work In Restricted Working Space, Add	63.00		
23 31 13 13-0464	LF	36" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	252.47	129.51	
		For Seal Class B, Add	32.38		
		For Seal Class A, Add	69.07		
		For Work In Restricted Working Space, Add	64.76		
23 31 13 13-0465	LF	36" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01	
		For Seal Class B, Add	33.25		
		For Seal Class A, Add	70.94		
		For Work In Restricted Working Space, Add	66.50		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0466	LF 36" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	266.11	136.51
		For Seal Class B, Add	34.13	
		For Seal Class A, Add	72.80	
		For Work In Restricted Working Space, Add	68.25	
23 31 13	13-0467	LF 36" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.93	140.01
		For Seal Class B, Add	35.00	
		For Seal Class A, Add	74.67	
		For Work In Restricted Working Space, Add	70.00	
23 31 13	13-0468	LF 36" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	279.76	143.50
		For Seal Class B, Add	35.88	
		For Seal Class A, Add	76.54	
		For Work In Restricted Working Space, Add	71.75	
23 31 13	13-0469	LF 36" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	286.57	147.01
		For Seal Class B, Add	36.75	
		For Seal Class A, Add	78.40	
		For Work In Restricted Working Space, Add	73.50	
23 31 13	13-0470	LF 38" x 38", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	259.29	133.01
		For Seal Class B, Add	33.25	
		For Seal Class A, Add	70.94	
		For Work In Restricted Working Space, Add	66.50	
23 31 13	13-0471	LF 38" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	266.11	136.51
		For Seal Class B, Add	34.13	
		For Seal Class A, Add	72.80	
		For Work In Restricted Working Space, Add	68.25	
23 31 13	13-0472	LF 38" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.93	140.01
		For Seal Class B, Add	35.00	
		For Seal Class A, Add	74.67	
		For Work In Restricted Working Space, Add	70.00	
23 31 13	13-0473	LF 38" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	279.76	143.50
		For Seal Class B, Add	35.88	
		For Seal Class A, Add	76.54	
		For Work In Restricted Working Space, Add	71.75	
23 31 13	13-0474	LF 38" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	286.57	147.01
		For Seal Class B, Add	36.75	
		For Seal Class A, Add	78.40	
		For Work In Restricted Working Space, Add	73.50	
23 31 13	13-0475	LF 38" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	293.41	150.51
		For Seal Class B, Add	37.63	
		For Seal Class A, Add	80.27	
		For Work In Restricted Working Space, Add	75.26	
23 31 13	13-0476	LF 38" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	300.23	154.01
		For Seal Class B, Add	38.50	
		For Seal Class A, Add	82.14	
		For Work In Restricted Working Space, Add	77.00	
23 31 13	13-0477	LF 40" x 40", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.93	140.01
		For Seal Class B, Add	35.00	
		For Seal Class A, Add	74.67	
		For Work In Restricted Working Space, Add	70.00	
23 31 13	13-0478	LF 40" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	279.76	143.50
		For Seal Class B, Add	35.88	
		For Seal Class A, Add	76.54	
		For Work In Restricted Working Space, Add	71.75	
23 31 13	13-0479	LF 40" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	286.57	147.01
		For Seal Class B, Add	36.75	
		For Seal Class A, Add	78.40	
		For Work In Restricted Working Space, Add	73.50	
23 31 13	13-0480	LF 40" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	293.41	150.51
		For Seal Class B, Add	37.63	
		For Seal Class A, Add	80.27	
		For Work In Restricted Working Space, Add	75.26	
23 31 13	13-0481	LF 40" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	300.23	154.01
		For Seal Class B, Add	38.50	
		For Seal Class A, Add	82.14	
		For Work In Restricted Working Space, Add	77.00	
23 31 13	13-0482	LF 40" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	307.06	157.51
		For Seal Class B, Add	39.38	
		For Seal Class A, Add	84.01	
		For Work In Restricted Working Space, Add	78.76	
23 31 13	13-0483	LF 40" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.87	161.01
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.87	
		For Work In Restricted Working Space, Add	80.50	
23 31 13	13-0484	LF 40" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	320.70	164.50
		For Seal Class B, Add	41.13	
		For Seal Class A, Add	87.74	
		For Work In Restricted Working Space, Add	82.25	
23 31 13	13-0485	LF 42" x 42", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	286.57	147.01
		For Seal Class B, Add	36.75	
		For Seal Class A, Add	78.40	
		For Work In Restricted Working Space, Add	73.50	
23 31 13	13-0486	LF 42" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	293.41	150.51
		For Seal Class B, Add	37.63	
		For Seal Class A, Add	80.27	
		For Work In Restricted Working Space, Add	75.26	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0487	LF	42" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	300.23	154.01
			For Seal Class B, Add	38.50	
			For Seal Class A, Add	82.14	
			For Work In Restricted Working Space, Add	77.00	
23 31 13	13-0488	LF	42" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	307.06	157.51
			For Seal Class B, Add	39.38	
			For Seal Class A, Add	84.01	
			For Work In Restricted Working Space, Add	78.76	
23 31 13	13-0489	LF	42" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.87	161.01
			For Seal Class B, Add	40.25	
			For Seal Class A, Add	85.87	
			For Work In Restricted Working Space, Add	80.50	
23 31 13	13-0490	LF	42" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	320.70	164.50
			For Seal Class B, Add	41.13	
			For Seal Class A, Add	87.74	
			For Work In Restricted Working Space, Add	82.25	
23 31 13	13-0491	LF	42" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	327.52	168.00
			For Seal Class B, Add	42.00	
			For Seal Class A, Add	89.60	
			For Work In Restricted Working Space, Add	84.00	
23 31 13	13-0492	LF	44" x 44", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	300.23	154.01
			For Seal Class B, Add	38.50	
			For Seal Class A, Add	82.14	
			For Work In Restricted Working Space, Add	77.00	
23 31 13	13-0493	LF	44" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	307.06	157.51
			For Seal Class B, Add	39.38	
			For Seal Class A, Add	84.01	
			For Work In Restricted Working Space, Add	78.76	
23 31 13	13-0494	LF	44" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.87	161.01
			For Seal Class B, Add	40.25	
			For Seal Class A, Add	85.87	
			For Work In Restricted Working Space, Add	80.50	
23 31 13	13-0495	LF	44" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	320.70	164.50
			For Seal Class B, Add	41.13	
			For Seal Class A, Add	87.74	
			For Work In Restricted Working Space, Add	82.25	
23 31 13	13-0496	LF	44" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	327.52	168.00
			For Seal Class B, Add	42.00	
			For Seal Class A, Add	89.60	
			For Work In Restricted Working Space, Add	84.00	
23 31 13	13-0497	LF	44" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.34	171.51
			For Seal Class B, Add	42.88	
			For Seal Class A, Add	91.47	
			For Work In Restricted Working Space, Add	85.75	
23 31 13	13-0498	LF	46" x 46", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.87	161.01
			For Seal Class B, Add	40.25	
			For Seal Class A, Add	85.87	
			For Work In Restricted Working Space, Add	80.50	
23 31 13	13-0499	LF	46" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	320.70	164.50
			For Seal Class B, Add	41.13	
			For Seal Class A, Add	87.74	
			For Work In Restricted Working Space, Add	82.25	
23 31 13	13-0500	LF	46" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	327.52	168.00
			For Seal Class B, Add	42.00	
			For Seal Class A, Add	89.60	
			For Work In Restricted Working Space, Add	84.00	
23 31 13	13-0501	LF	46" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.34	171.51
			For Seal Class B, Add	42.88	
			For Seal Class A, Add	91.47	
			For Work In Restricted Working Space, Add	85.75	
23 31 13	13-0502	LF	46" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	341.17	175.01
			For Seal Class B, Add	43.75	
			For Seal Class A, Add	93.34	
			For Work In Restricted Working Space, Add	87.50	
23 31 13	13-0503	LF	48" x 48", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	327.52	168.00
			For Seal Class B, Add	42.00	
			For Seal Class A, Add	89.60	
			For Work In Restricted Working Space, Add	84.00	
23 31 13	13-0504	LF	48" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.34	171.51
			For Seal Class B, Add	42.88	
			For Seal Class A, Add	91.47	
			For Work In Restricted Working Space, Add	85.75	
23 31 13	13-0505	LF	48" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	341.17	175.01
			For Seal Class B, Add	43.75	
			For Seal Class A, Add	93.34	
			For Work In Restricted Working Space, Add	87.50	
23 31 13	13-0506	LF	48" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	348.00	178.51
			For Seal Class B, Add	44.63	
			For Seal Class A, Add	95.21	
			For Work In Restricted Working Space, Add	89.26	
23 31 13	13-0507	LF	50" x 50", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	341.17	175.01
			For Seal Class B, Add	43.75	
			For Seal Class A, Add	93.34	
			For Work In Restricted Working Space, Add	87.50	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0508	LF	50" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	348.00	178.51
		For Seal Class B, Add	44.63	
		For Seal Class A, Add	95.21	
		For Work In Restricted Working Space, Add	89.26	
23 31 13 13-0509	LF	50" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	354.82	182.00
		For Seal Class B, Add	45.50	
		For Seal Class A, Add	97.07	
		For Work In Restricted Working Space, Add	91.01	
23 31 13 13-0510	LF	52" x 52", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	354.82	182.00
		For Seal Class B, Add	45.50	
		For Seal Class A, Add	97.07	
		For Work In Restricted Working Space, Add	91.01	
23 31 13 13-0511	LF	52" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	361.63	185.51
		For Seal Class B, Add	46.38	
		For Seal Class A, Add	98.94	
		For Work In Restricted Working Space, Add	92.75	
23 31 13 13-0512	LF	54" x 54", 22 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	368.45	189.00
		For Seal Class B, Add	47.25	
		For Seal Class A, Add	100.80	
		For Work In Restricted Working Space, Add	94.50	
23 31 13 13-0513 20 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)				
23 31 13 13-0514	LF	4" x 4", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	32.13	16.49
		For Seal Class B, Add	4.12	
		For Seal Class A, Add	8.79	
		For Work In Restricted Working Space, Add	8.24	
23 31 13 13-0515	LF	4" x 6", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	40.19	20.61
		For Seal Class B, Add	5.15	
		For Seal Class A, Add	11.00	
		For Work In Restricted Working Space, Add	10.31	
23 31 13 13-0516	LF	4" x 8", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	48.22	24.74
		For Seal Class B, Add	6.18	
		For Seal Class A, Add	13.19	
		For Work In Restricted Working Space, Add	12.37	
23 31 13 13-0517	LF	4" x 10", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	56.25	28.85
		For Seal Class B, Add	7.22	
		For Seal Class A, Add	15.39	
		For Work In Restricted Working Space, Add	14.43	
23 31 13 13-0518	LF	4" x 12", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	64.30	32.98
		For Seal Class B, Add	8.25	
		For Seal Class A, Add	17.59	
		For Work In Restricted Working Space, Add	16.49	
23 31 13 13-0519	LF	4" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	72.33	37.10
		For Seal Class B, Add	9.27	
		For Seal Class A, Add	19.79	
		For Work In Restricted Working Space, Add	18.55	
23 31 13 13-0520	LF	4" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	80.37	41.22
		For Seal Class B, Add	10.31	
		For Seal Class A, Add	21.99	
		For Work In Restricted Working Space, Add	20.62	
23 31 13 13-0521	LF	6" x 6", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	48.22	24.74
		For Seal Class B, Add	6.18	
		For Seal Class A, Add	13.19	
		For Work In Restricted Working Space, Add	12.37	
23 31 13 13-0522	LF	6" x 8", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	56.25	28.85
		For Seal Class B, Add	7.22	
		For Seal Class A, Add	15.39	
		For Work In Restricted Working Space, Add	14.43	
23 31 13 13-0523	LF	6" x 10", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	64.30	32.98
		For Seal Class B, Add	8.25	
		For Seal Class A, Add	17.59	
		For Work In Restricted Working Space, Add	16.49	
23 31 13 13-0524	LF	6" x 12", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	72.33	37.10
		For Seal Class B, Add	9.27	
		For Seal Class A, Add	19.79	
		For Work In Restricted Working Space, Add	18.55	
23 31 13 13-0525	LF	6" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	80.37	41.22
		For Seal Class B, Add	10.31	
		For Seal Class A, Add	21.99	
		For Work In Restricted Working Space, Add	20.62	
23 31 13 13-0526	LF	6" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	88.41	45.35
		For Seal Class B, Add	11.34	
		For Seal Class A, Add	24.19	
		For Work In Restricted Working Space, Add	22.67	
23 31 13 13-0527	LF	8" x 8", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	64.30	32.98
		For Seal Class B, Add	8.25	
		For Seal Class A, Add	17.59	
		For Work In Restricted Working Space, Add	16.49	
23 31 13 13-0528	LF	8" x 10", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	72.33	37.10
		For Seal Class B, Add	9.27	
		For Seal Class A, Add	19.79	
		For Work In Restricted Working Space, Add	18.55	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0529	LF	8" x 12", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	80.37	41.22
			For Seal Class B, Add	10.31	
			For Seal Class A, Add	21.99	
			For Work In Restricted Working Space, Add	20.62	
23 31 13	13-0530	LF	8" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	88.41	45.35
			For Seal Class B, Add	11.34	
			For Seal Class A, Add	24.19	
			For Work In Restricted Working Space, Add	22.67	
23 31 13	13-0531	LF	8" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	96.43	49.47
			For Seal Class B, Add	12.37	
			For Seal Class A, Add	26.38	
			For Work In Restricted Working Space, Add	24.74	
23 31 13	13-0532	LF	8" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.47	53.58
			For Seal Class B, Add	13.40	
			For Seal Class A, Add	28.58	
			For Work In Restricted Working Space, Add	26.80	
23 31 13	13-0533	LF	8" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	112.52	57.72
			For Seal Class B, Add	14.43	
			For Seal Class A, Add	30.78	
			For Work In Restricted Working Space, Add	28.86	
23 31 13	13-0534	LF	8" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	120.54	61.83
			For Seal Class B, Add	15.46	
			For Seal Class A, Add	32.98	
			For Work In Restricted Working Space, Add	30.92	
23 31 13	13-0535	LF	8" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	128.58	65.96
			For Seal Class B, Add	16.49	
			For Seal Class A, Add	35.18	
			For Work In Restricted Working Space, Add	32.98	
23 31 13	13-0536	LF	10" x 10", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	80.37	41.22
			For Seal Class B, Add	10.31	
			For Seal Class A, Add	21.99	
			For Work In Restricted Working Space, Add	20.62	
23 31 13	13-0537	LF	10" x 12", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	88.41	45.35
			For Seal Class B, Add	11.34	
			For Seal Class A, Add	24.19	
			For Work In Restricted Working Space, Add	22.67	
23 31 13	13-0538	LF	10" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	96.43	49.47
			For Seal Class B, Add	12.37	
			For Seal Class A, Add	26.38	
			For Work In Restricted Working Space, Add	24.74	
23 31 13	13-0539	LF	10" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.47	53.58
			For Seal Class B, Add	13.40	
			For Seal Class A, Add	28.58	
			For Work In Restricted Working Space, Add	26.80	
23 31 13	13-0540	LF	10" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	112.52	57.72
			For Seal Class B, Add	14.43	
			For Seal Class A, Add	30.78	
			For Work In Restricted Working Space, Add	28.86	
23 31 13	13-0541	LF	10" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	120.54	61.83
			For Seal Class B, Add	15.46	
			For Seal Class A, Add	32.98	
			For Work In Restricted Working Space, Add	30.92	
23 31 13	13-0542	LF	10" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	128.58	65.96
			For Seal Class B, Add	16.49	
			For Seal Class A, Add	35.18	
			For Work In Restricted Working Space, Add	32.98	
23 31 13	13-0543	LF	10" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.64	70.08
			For Seal Class B, Add	17.52	
			For Seal Class A, Add	37.38	
			For Work In Restricted Working Space, Add	35.04	
23 31 13	13-0544	LF	10" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	144.66	74.21
			For Seal Class B, Add	18.55	
			For Seal Class A, Add	39.58	
			For Work In Restricted Working Space, Add	37.10	
23 31 13	13-0545	LF	10" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.70	78.32
			For Seal Class B, Add	19.58	
			For Seal Class A, Add	41.78	
			For Work In Restricted Working Space, Add	39.17	
23 31 13	13-0546	LF	10" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72	82.45
			For Seal Class B, Add	20.61	
			For Seal Class A, Add	43.97	
			For Work In Restricted Working Space, Add	41.22	
23 31 13	13-0547	LF	10" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77	86.57
			For Seal Class B, Add	21.64	
			For Seal Class A, Add	46.17	
			For Work In Restricted Working Space, Add	43.29	
23 31 13	13-0548	LF	12" x 12", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	96.43	49.47
			For Seal Class B, Add	12.37	
			For Seal Class A, Add	26.38	
			For Work In Restricted Working Space, Add	24.74	
23 31 13	13-0549	LF	12" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.47	53.58
			For Seal Class B, Add	13.40	
			For Seal Class A, Add	28.58	
			For Work In Restricted Working Space, Add	26.80	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0550	LF 12" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	112.52	57.72
		For Seal Class B, Add	14.43	
		For Seal Class A, Add	30.78	
		For Work In Restricted Working Space, Add	28.86	
23 31 13	13-0551	LF 12" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	120.54	61.83
		For Seal Class B, Add	15.46	
		For Seal Class A, Add	32.98	
		For Work In Restricted Working Space, Add	30.92	
23 31 13	13-0552	LF 12" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	128.58	65.96
		For Seal Class B, Add	16.49	
		For Seal Class A, Add	35.18	
		For Work In Restricted Working Space, Add	32.98	
23 31 13	13-0553	LF 12" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.64	70.08
		For Seal Class B, Add	17.52	
		For Seal Class A, Add	37.38	
		For Work In Restricted Working Space, Add	35.04	
23 31 13	13-0554	LF 12" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	144.66	74.21
		For Seal Class B, Add	18.55	
		For Seal Class A, Add	39.58	
		For Work In Restricted Working Space, Add	37.10	
23 31 13	13-0555	LF 12" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.70	78.32
		For Seal Class B, Add	19.58	
		For Seal Class A, Add	41.78	
		For Work In Restricted Working Space, Add	39.17	
23 31 13	13-0556	LF 12" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72	82.45
		For Seal Class B, Add	20.61	
		For Seal Class A, Add	43.97	
		For Work In Restricted Working Space, Add	41.22	
23 31 13	13-0557	LF 12" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77	86.57
		For Seal Class B, Add	21.64	
		For Seal Class A, Add	46.17	
		For Work In Restricted Working Space, Add	43.29	
23 31 13	13-0558	LF 12" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	176.80	90.69
		For Seal Class B, Add	22.67	
		For Seal Class A, Add	48.37	
		For Work In Restricted Working Space, Add	45.35	
23 31 13	13-0559	LF 12" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.83	94.82
		For Seal Class B, Add	23.70	
		For Seal Class A, Add	50.57	
		For Work In Restricted Working Space, Add	47.41	
23 31 13	13-0560	LF 12" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89	98.94
		For Seal Class B, Add	24.74	
		For Seal Class A, Add	52.77	
		For Work In Restricted Working Space, Add	49.47	
23 31 13	13-0561	LF 14" x 14", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	112.52	57.72
		For Seal Class B, Add	14.43	
		For Seal Class A, Add	30.78	
		For Work In Restricted Working Space, Add	28.86	
23 31 13	13-0562	LF 14" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	120.54	61.83
		For Seal Class B, Add	15.46	
		For Seal Class A, Add	32.98	
		For Work In Restricted Working Space, Add	30.92	
23 31 13	13-0563	LF 14" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	128.58	65.96
		For Seal Class B, Add	16.49	
		For Seal Class A, Add	35.18	
		For Work In Restricted Working Space, Add	32.98	
23 31 13	13-0564	LF 14" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.64	70.08
		For Seal Class B, Add	17.52	
		For Seal Class A, Add	37.38	
		For Work In Restricted Working Space, Add	35.04	
23 31 13	13-0565	LF 14" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	144.66	74.21
		For Seal Class B, Add	18.55	
		For Seal Class A, Add	39.58	
		For Work In Restricted Working Space, Add	37.10	
23 31 13	13-0566	LF 14" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.70	78.32
		For Seal Class B, Add	19.58	
		For Seal Class A, Add	41.78	
		For Work In Restricted Working Space, Add	39.17	
23 31 13	13-0567	LF 14" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72	82.45
		For Seal Class B, Add	20.61	
		For Seal Class A, Add	43.97	
		For Work In Restricted Working Space, Add	41.22	
23 31 13	13-0568	LF 14" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77	86.57
		For Seal Class B, Add	21.64	
		For Seal Class A, Add	46.17	
		For Work In Restricted Working Space, Add	43.29	
23 31 13	13-0569	LF 14" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	176.80	90.69
		For Seal Class B, Add	22.67	
		For Seal Class A, Add	48.37	
		For Work In Restricted Working Space, Add	45.35	
23 31 13	13-0570	LF 14" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.83	94.82
		For Seal Class B, Add	23.70	
		For Seal Class A, Add	50.57	
		For Work In Restricted Working Space, Add	47.41	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0571	LF	14" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89	98.94
			For Seal Class B, Add	24.74	
			For Seal Class A, Add	52.77	
			For Work In Restricted Working Space, Add	49.47	
23 31 13	13-0572	LF	14" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	200.90	103.06
			For Seal Class B, Add	25.77	
			For Seal Class A, Add	54.97	
			For Work In Restricted Working Space, Add	51.53	
23 31 13	13-0573	LF	16" x 16", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	128.58	65.96
			For Seal Class B, Add	16.49	
			For Seal Class A, Add	35.18	
			For Work In Restricted Working Space, Add	32.98	
23 31 13	13-0574	LF	16" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.64	70.08
			For Seal Class B, Add	17.52	
			For Seal Class A, Add	37.38	
			For Work In Restricted Working Space, Add	35.04	
23 31 13	13-0575	LF	16" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	144.66	74.21
			For Seal Class B, Add	18.55	
			For Seal Class A, Add	39.58	
			For Work In Restricted Working Space, Add	37.10	
23 31 13	13-0576	LF	16" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.70	78.32
			For Seal Class B, Add	19.58	
			For Seal Class A, Add	41.78	
			For Work In Restricted Working Space, Add	39.17	
23 31 13	13-0577	LF	16" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72	82.45
			For Seal Class B, Add	20.61	
			For Seal Class A, Add	43.97	
			For Work In Restricted Working Space, Add	41.22	
23 31 13	13-0578	LF	16" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77	86.57
			For Seal Class B, Add	21.64	
			For Seal Class A, Add	46.17	
			For Work In Restricted Working Space, Add	43.29	
23 31 13	13-0579	LF	16" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	176.80	90.69
			For Seal Class B, Add	22.67	
			For Seal Class A, Add	48.37	
			For Work In Restricted Working Space, Add	45.35	
23 31 13	13-0580	LF	16" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.83	94.82
			For Seal Class B, Add	23.70	
			For Seal Class A, Add	50.57	
			For Work In Restricted Working Space, Add	47.41	
23 31 13	13-0581	LF	16" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89	98.94
			For Seal Class B, Add	24.74	
			For Seal Class A, Add	52.77	
			For Work In Restricted Working Space, Add	49.47	
23 31 13	13-0582	LF	16" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	200.90	103.06
			For Seal Class B, Add	25.77	
			For Seal Class A, Add	54.97	
			For Work In Restricted Working Space, Add	51.53	
23 31 13	13-0583	LF	16" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	208.96	107.19
			For Seal Class B, Add	26.80	
			For Seal Class A, Add	57.17	
			For Work In Restricted Working Space, Add	53.60	
23 31 13	13-0584	LF	16" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	216.99	111.30
			For Seal Class B, Add	27.83	
			For Seal Class A, Add	59.36	
			For Work In Restricted Working Space, Add	55.65	
23 31 13	13-0585	LF	16" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
			For Seal Class B, Add	28.86	
			For Seal Class A, Add	61.56	
			For Work In Restricted Working Space, Add	57.71	
23 31 13	13-0586	LF	16" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
			For Seal Class B, Add	29.89	
			For Seal Class A, Add	63.76	
			For Work In Restricted Working Space, Add	59.78	
23 31 13	13-0587	LF	16" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
			For Seal Class B, Add	30.92	
			For Seal Class A, Add	65.96	
			For Work In Restricted Working Space, Add	61.84	
23 31 13	13-0588	LF	18" x 18", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	144.66	74.21
			For Seal Class B, Add	18.55	
			For Seal Class A, Add	39.58	
			For Work In Restricted Working Space, Add	37.10	
23 31 13	13-0589	LF	18" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	152.70	78.32
			For Seal Class B, Add	19.58	
			For Seal Class A, Add	41.78	
			For Work In Restricted Working Space, Add	39.17	
23 31 13	13-0590	LF	18" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72	82.45
			For Seal Class B, Add	20.61	
			For Seal Class A, Add	43.97	
			For Work In Restricted Working Space, Add	41.22	
23 31 13	13-0591	LF	18" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77	86.57
			For Seal Class B, Add	21.64	
			For Seal Class A, Add	46.17	
			For Work In Restricted Working Space, Add	43.29	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0592	LF 18" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	176.80	90.69
		For Seal Class B, Add	22.67	
		For Seal Class A, Add	48.37	
		For Work In Restricted Working Space, Add	45.35	
23 31 13	13-0593	LF 18" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.83	94.82
		For Seal Class B, Add	23.70	
		For Seal Class A, Add	50.57	
		For Work In Restricted Working Space, Add	47.41	
23 31 13	13-0594	LF 18" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89	98.94
		For Seal Class B, Add	24.74	
		For Seal Class A, Add	52.77	
		For Work In Restricted Working Space, Add	49.47	
23 31 13	13-0595	LF 18" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	200.90	103.06
		For Seal Class B, Add	25.77	
		For Seal Class A, Add	54.97	
		For Work In Restricted Working Space, Add	51.53	
23 31 13	13-0596	LF 18" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	208.96	107.19
		For Seal Class B, Add	26.80	
		For Seal Class A, Add	57.17	
		For Work In Restricted Working Space, Add	53.60	
23 31 13	13-0597	LF 18" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	216.99	111.30
		For Seal Class B, Add	27.83	
		For Seal Class A, Add	59.36	
		For Work In Restricted Working Space, Add	55.65	
23 31 13	13-0598	LF 18" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
		For Seal Class B, Add	28.86	
		For Seal Class A, Add	61.56	
		For Work In Restricted Working Space, Add	57.71	
23 31 13	13-0599	LF 18" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
		For Seal Class B, Add	29.89	
		For Seal Class A, Add	63.76	
		For Work In Restricted Working Space, Add	59.78	
23 31 13	13-0600	LF 18" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
		For Seal Class B, Add	30.92	
		For Seal Class A, Add	65.96	
		For Work In Restricted Working Space, Add	61.84	
23 31 13	13-0601	LF 18" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
		For Seal Class B, Add	31.95	
		For Seal Class A, Add	68.16	
		For Work In Restricted Working Space, Add	63.90	
23 31 13	13-0602	LF 18" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
		For Seal Class B, Add	32.98	
		For Seal Class A, Add	70.36	
		For Work In Restricted Working Space, Add	65.96	
23 31 13	13-0603	LF 20" x 20", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	160.72	82.45
		For Seal Class B, Add	20.61	
		For Seal Class A, Add	43.97	
		For Work In Restricted Working Space, Add	41.22	
23 31 13	13-0604	LF 20" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	168.77	86.57
		For Seal Class B, Add	21.64	
		For Seal Class A, Add	46.17	
		For Work In Restricted Working Space, Add	43.29	
23 31 13	13-0605	LF 20" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	176.80	90.69
		For Seal Class B, Add	22.67	
		For Seal Class A, Add	48.37	
		For Work In Restricted Working Space, Add	45.35	
23 31 13	13-0606	LF 20" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	184.83	94.82
		For Seal Class B, Add	23.70	
		For Seal Class A, Add	50.57	
		For Work In Restricted Working Space, Add	47.41	
23 31 13	13-0607	LF 20" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	192.89	98.94
		For Seal Class B, Add	24.74	
		For Seal Class A, Add	52.77	
		For Work In Restricted Working Space, Add	49.47	
23 31 13	13-0608	LF 20" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	200.90	103.06
		For Seal Class B, Add	25.77	
		For Seal Class A, Add	54.97	
		For Work In Restricted Working Space, Add	51.53	
23 31 13	13-0609	LF 20" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	208.96	107.19
		For Seal Class B, Add	26.80	
		For Seal Class A, Add	57.17	
		For Work In Restricted Working Space, Add	53.60	
23 31 13	13-0610	LF 20" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	216.99	111.30
		For Seal Class B, Add	27.83	
		For Seal Class A, Add	59.36	
		For Work In Restricted Working Space, Add	55.65	
23 31 13	13-0611	LF 20" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
		For Seal Class B, Add	28.86	
		For Seal Class A, Add	61.56	
		For Work In Restricted Working Space, Add	57.71	
23 31 13	13-0612	LF 20" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
		For Seal Class B, Add	29.89	
		For Seal Class A, Add	63.76	
		For Work In Restricted Working Space, Add	59.78	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0613	LF	20" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	241.11	123.68
		For Seal Class B, Add	.....	30.92	
		For Seal Class A, Add	.....	65.96	
		For Work In Restricted Working Space, Add	.....	61.84	
23 31 13 13-0614	LF	20" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	249.12	127.79
		For Seal Class B, Add	.....	31.95	
		For Seal Class A, Add	.....	68.16	
		For Work In Restricted Working Space, Add	.....	63.90	
23 31 13 13-0615	LF	20" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	257.18	131.92
		For Seal Class B, Add	.....	32.98	
		For Seal Class A, Add	.....	70.36	
		For Work In Restricted Working Space, Add	.....	65.96	
23 31 13 13-0616	LF	20" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	265.20	136.04
		For Seal Class B, Add	.....	34.01	
		For Seal Class A, Add	.....	72.56	
		For Work In Restricted Working Space, Add	.....	68.02	
23 31 13 13-0617	LF	20" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	273.24	140.17
		For Seal Class B, Add	.....	35.04	
		For Seal Class A, Add	.....	74.76	
		For Work In Restricted Working Space, Add	.....	70.08	
23 31 13 13-0618	LF	22" x 22", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	176.80	90.69
		For Seal Class B, Add	.....	22.67	
		For Seal Class A, Add	.....	48.37	
		For Work In Restricted Working Space, Add	.....	45.35	
23 31 13 13-0619	LF	22" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	184.83	94.82
		For Seal Class B, Add	.....	23.70	
		For Seal Class A, Add	.....	50.57	
		For Work In Restricted Working Space, Add	.....	47.41	
23 31 13 13-0620	LF	22" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	192.89	98.94
		For Seal Class B, Add	.....	24.74	
		For Seal Class A, Add	.....	52.77	
		For Work In Restricted Working Space, Add	.....	49.47	
23 31 13 13-0621	LF	22" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	200.90	103.06
		For Seal Class B, Add	.....	25.77	
		For Seal Class A, Add	.....	54.97	
		For Work In Restricted Working Space, Add	.....	51.53	
23 31 13 13-0622	LF	22" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	208.96	107.19
		For Seal Class B, Add	.....	26.80	
		For Seal Class A, Add	.....	57.17	
		For Work In Restricted Working Space, Add	.....	53.60	
23 31 13 13-0623	LF	22" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	216.99	111.30
		For Seal Class B, Add	.....	27.83	
		For Seal Class A, Add	.....	59.36	
		For Work In Restricted Working Space, Add	.....	55.65	
23 31 13 13-0624	LF	22" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	225.01	115.43
		For Seal Class B, Add	.....	28.86	
		For Seal Class A, Add	.....	61.56	
		For Work In Restricted Working Space, Add	.....	57.71	
23 31 13 13-0625	LF	22" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	233.06	119.55
		For Seal Class B, Add	.....	29.89	
		For Seal Class A, Add	.....	63.76	
		For Work In Restricted Working Space, Add	.....	59.78	
23 31 13 13-0626	LF	22" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	241.11	123.68
		For Seal Class B, Add	.....	30.92	
		For Seal Class A, Add	.....	65.96	
		For Work In Restricted Working Space, Add	.....	61.84	
23 31 13 13-0627	LF	22" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	249.12	127.79
		For Seal Class B, Add	.....	31.95	
		For Seal Class A, Add	.....	68.16	
		For Work In Restricted Working Space, Add	.....	63.90	
23 31 13 13-0628	LF	22" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	257.18	131.92
		For Seal Class B, Add	.....	32.98	
		For Seal Class A, Add	.....	70.36	
		For Work In Restricted Working Space, Add	.....	65.96	
23 31 13 13-0629	LF	22" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	265.20	136.04
		For Seal Class B, Add	.....	34.01	
		For Seal Class A, Add	.....	72.56	
		For Work In Restricted Working Space, Add	.....	68.02	
23 31 13 13-0630	LF	22" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	273.24	140.17
		For Seal Class B, Add	.....	35.04	
		For Seal Class A, Add	.....	74.76	
		For Work In Restricted Working Space, Add	.....	70.08	
23 31 13 13-0631	LF	22" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	281.29	144.29
		For Seal Class B, Add	.....	36.07	
		For Seal Class A, Add	.....	76.95	
		For Work In Restricted Working Space, Add	.....	72.14	
23 31 13 13-0632	LF	24" x 24", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	192.89	98.94
		For Seal Class B, Add	.....	24.74	
		For Seal Class A, Add	.....	52.77	
		For Work In Restricted Working Space, Add	.....	49.47	
23 31 13 13-0633	LF	24" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	200.90	103.06
		For Seal Class B, Add	.....	25.77	
		For Seal Class A, Add	.....	54.97	
		For Work In Restricted Working Space, Add	.....	51.53	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0634	LF 24" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	208.96	107.19
		For Seal Class B, Add	26.80	
		For Seal Class A, Add	57.17	
		For Work In Restricted Working Space, Add	53.60	
23 31 13	13-0635	LF 24" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	216.99	111.30
		For Seal Class B, Add	27.83	
		For Seal Class A, Add	59.36	
		For Work In Restricted Working Space, Add	55.65	
23 31 13	13-0636	LF 24" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
		For Seal Class B, Add	28.86	
		For Seal Class A, Add	61.56	
		For Work In Restricted Working Space, Add	57.71	
23 31 13	13-0637	LF 24" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
		For Seal Class B, Add	29.89	
		For Seal Class A, Add	63.76	
		For Work In Restricted Working Space, Add	59.78	
23 31 13	13-0638	LF 24" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
		For Seal Class B, Add	30.92	
		For Seal Class A, Add	65.96	
		For Work In Restricted Working Space, Add	61.84	
23 31 13	13-0639	LF 24" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
		For Seal Class B, Add	31.95	
		For Seal Class A, Add	68.16	
		For Work In Restricted Working Space, Add	63.90	
23 31 13	13-0640	LF 24" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
		For Seal Class B, Add	32.98	
		For Seal Class A, Add	70.36	
		For Work In Restricted Working Space, Add	65.96	
23 31 13	13-0641	LF 24" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
		For Seal Class B, Add	34.01	
		For Seal Class A, Add	72.56	
		For Work In Restricted Working Space, Add	68.02	
23 31 13	13-0642	LF 24" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
		For Seal Class B, Add	35.04	
		For Seal Class A, Add	74.76	
		For Work In Restricted Working Space, Add	70.08	
23 31 13	13-0643	LF 24" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
		For Seal Class B, Add	36.07	
		For Seal Class A, Add	76.95	
		For Work In Restricted Working Space, Add	72.14	
23 31 13	13-0644	LF 24" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30	148.41
		For Seal Class B, Add	37.10	
		For Seal Class A, Add	79.15	
		For Work In Restricted Working Space, Add	74.20	
23 31 13	13-0645	LF 26" x 26", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	208.96	107.19
		For Seal Class B, Add	26.80	
		For Seal Class A, Add	57.17	
		For Work In Restricted Working Space, Add	53.60	
23 31 13	13-0646	LF 26" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	216.99	111.30
		For Seal Class B, Add	27.83	
		For Seal Class A, Add	59.36	
		For Work In Restricted Working Space, Add	55.65	
23 31 13	13-0647	LF 26" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
		For Seal Class B, Add	28.86	
		For Seal Class A, Add	61.56	
		For Work In Restricted Working Space, Add	57.71	
23 31 13	13-0648	LF 26" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
		For Seal Class B, Add	29.89	
		For Seal Class A, Add	63.76	
		For Work In Restricted Working Space, Add	59.78	
23 31 13	13-0649	LF 26" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
		For Seal Class B, Add	30.92	
		For Seal Class A, Add	65.96	
		For Work In Restricted Working Space, Add	61.84	
23 31 13	13-0650	LF 26" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
		For Seal Class B, Add	31.95	
		For Seal Class A, Add	68.16	
		For Work In Restricted Working Space, Add	63.90	
23 31 13	13-0651	LF 26" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
		For Seal Class B, Add	32.98	
		For Seal Class A, Add	70.36	
		For Work In Restricted Working Space, Add	65.96	
23 31 13	13-0652	LF 26" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
		For Seal Class B, Add	34.01	
		For Seal Class A, Add	72.56	
		For Work In Restricted Working Space, Add	68.02	
23 31 13	13-0653	LF 26" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
		For Seal Class B, Add	35.04	
		For Seal Class A, Add	74.76	
		For Work In Restricted Working Space, Add	70.08	
23 31 13	13-0654	LF 26" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
		For Seal Class B, Add	36.07	
		For Seal Class A, Add	76.95	
		For Work In Restricted Working Space, Add	72.14	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0655	LF	26" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30	148.41
			For Seal Class B, Add	37.10	
			For Seal Class A, Add	79.15	
			For Work In Restricted Working Space, Add	74.20	
23 31 13	13-0656	LF	26" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36	152.54
			For Seal Class B, Add	38.13	
			For Seal Class A, Add	81.35	
			For Work In Restricted Working Space, Add	76.27	
23 31 13	13-0657	LF	28" x 28", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	225.01	115.43
			For Seal Class B, Add	28.86	
			For Seal Class A, Add	61.56	
			For Work In Restricted Working Space, Add	57.71	
23 31 13	13-0658	LF	28" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	233.06	119.55
			For Seal Class B, Add	29.89	
			For Seal Class A, Add	63.76	
			For Work In Restricted Working Space, Add	59.78	
23 31 13	13-0659	LF	28" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
			For Seal Class B, Add	30.92	
			For Seal Class A, Add	65.96	
			For Work In Restricted Working Space, Add	61.84	
23 31 13	13-0660	LF	28" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
			For Seal Class B, Add	31.95	
			For Seal Class A, Add	68.16	
			For Work In Restricted Working Space, Add	63.90	
23 31 13	13-0661	LF	28" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
			For Seal Class B, Add	32.98	
			For Seal Class A, Add	70.36	
			For Work In Restricted Working Space, Add	65.96	
23 31 13	13-0662	LF	28" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
			For Seal Class B, Add	34.01	
			For Seal Class A, Add	72.56	
			For Work In Restricted Working Space, Add	68.02	
23 31 13	13-0663	LF	28" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
			For Seal Class B, Add	35.04	
			For Seal Class A, Add	74.76	
			For Work In Restricted Working Space, Add	70.08	
23 31 13	13-0664	LF	28" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
			For Seal Class B, Add	36.07	
			For Seal Class A, Add	76.95	
			For Work In Restricted Working Space, Add	72.14	
23 31 13	13-0665	LF	28" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30	148.41
			For Seal Class B, Add	37.10	
			For Seal Class A, Add	79.15	
			For Work In Restricted Working Space, Add	74.20	
23 31 13	13-0666	LF	28" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36	152.54
			For Seal Class B, Add	38.13	
			For Seal Class A, Add	81.35	
			For Work In Restricted Working Space, Add	76.27	
23 31 13	13-0667	LF	28" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	305.38	156.66
			For Seal Class B, Add	39.16	
			For Seal Class A, Add	83.55	
			For Work In Restricted Working Space, Add	78.33	
23 31 13	13-0668	LF	30" x 30", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	241.11	123.68
			For Seal Class B, Add	30.92	
			For Seal Class A, Add	65.96	
			For Work In Restricted Working Space, Add	61.84	
23 31 13	13-0669	LF	30" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	249.12	127.79
			For Seal Class B, Add	31.95	
			For Seal Class A, Add	68.16	
			For Work In Restricted Working Space, Add	63.90	
23 31 13	13-0670	LF	30" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
			For Seal Class B, Add	32.98	
			For Seal Class A, Add	70.36	
			For Work In Restricted Working Space, Add	65.96	
23 31 13	13-0671	LF	30" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
			For Seal Class B, Add	34.01	
			For Seal Class A, Add	72.56	
			For Work In Restricted Working Space, Add	68.02	
23 31 13	13-0672	LF	30" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
			For Seal Class B, Add	35.04	
			For Seal Class A, Add	74.76	
			For Work In Restricted Working Space, Add	70.08	
23 31 13	13-0673	LF	30" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
			For Seal Class B, Add	36.07	
			For Seal Class A, Add	76.95	
			For Work In Restricted Working Space, Add	72.14	
23 31 13	13-0674	LF	30" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30	148.41
			For Seal Class B, Add	37.10	
			For Seal Class A, Add	79.15	
			For Work In Restricted Working Space, Add	74.20	
23 31 13	13-0675	LF	30" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36	152.54
			For Seal Class B, Add	38.13	
			For Seal Class A, Add	81.35	
			For Work In Restricted Working Space, Add	76.27	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0676	LF 30" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	305.38	156.66
		For Seal Class B, Add	39.16	
		For Seal Class A, Add	83.55	
		For Work In Restricted Working Space, Add	78.33	
23 31 13	13-0677	LF 30" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.42	160.77
		For Seal Class B, Add	40.19	
		For Seal Class A, Add	85.75	
		For Work In Restricted Working Space, Add	80.39	
23 31 13	13-0678	LF 32" x 32", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	257.18	131.92
		For Seal Class B, Add	32.98	
		For Seal Class A, Add	70.36	
		For Work In Restricted Working Space, Add	65.96	
23 31 13	13-0679	LF 32" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	265.20	136.04
		For Seal Class B, Add	34.01	
		For Seal Class A, Add	72.56	
		For Work In Restricted Working Space, Add	68.02	
23 31 13	13-0680	LF 32" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
		For Seal Class B, Add	35.04	
		For Seal Class A, Add	74.76	
		For Work In Restricted Working Space, Add	70.08	
23 31 13	13-0681	LF 32" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
		For Seal Class B, Add	36.07	
		For Seal Class A, Add	76.95	
		For Work In Restricted Working Space, Add	72.14	
23 31 13	13-0682	LF 32" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30	148.41
		For Seal Class B, Add	37.10	
		For Seal Class A, Add	79.15	
		For Work In Restricted Working Space, Add	74.20	
23 31 13	13-0683	LF 32" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36	152.54
		For Seal Class B, Add	38.13	
		For Seal Class A, Add	81.35	
		For Work In Restricted Working Space, Add	76.27	
23 31 13	13-0684	LF 32" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	305.38	156.66
		For Seal Class B, Add	39.16	
		For Seal Class A, Add	83.55	
		For Work In Restricted Working Space, Add	78.33	
23 31 13	13-0685	LF 32" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.42	160.77
		For Seal Class B, Add	40.19	
		For Seal Class A, Add	85.75	
		For Work In Restricted Working Space, Add	80.39	
23 31 13	13-0686	LF 32" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	321.47	164.91
		For Seal Class B, Add	41.23	
		For Seal Class A, Add	87.95	
		For Work In Restricted Working Space, Add	82.45	
23 31 13	13-0687	LF 34" x 34", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	273.24	140.17
		For Seal Class B, Add	35.04	
		For Seal Class A, Add	74.76	
		For Work In Restricted Working Space, Add	70.08	
23 31 13	13-0688	LF 34" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	281.29	144.29
		For Seal Class B, Add	36.07	
		For Seal Class A, Add	76.95	
		For Work In Restricted Working Space, Add	72.14	
23 31 13	13-0689	LF 34" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30	148.41
		For Seal Class B, Add	37.10	
		For Seal Class A, Add	79.15	
		For Work In Restricted Working Space, Add	74.20	
23 31 13	13-0690	LF 34" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36	152.54
		For Seal Class B, Add	38.13	
		For Seal Class A, Add	81.35	
		For Work In Restricted Working Space, Add	76.27	
23 31 13	13-0691	LF 34" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	305.38	156.66
		For Seal Class B, Add	39.16	
		For Seal Class A, Add	83.55	
		For Work In Restricted Working Space, Add	78.33	
23 31 13	13-0692	LF 34" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.42	160.77
		For Seal Class B, Add	40.19	
		For Seal Class A, Add	85.75	
		For Work In Restricted Working Space, Add	80.39	
23 31 13	13-0693	LF 34" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	321.47	164.91
		For Seal Class B, Add	41.23	
		For Seal Class A, Add	87.95	
		For Work In Restricted Working Space, Add	82.45	
23 31 13	13-0694	LF 34" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	329.49	169.02
		For Seal Class B, Add	42.26	
		For Seal Class A, Add	90.14	
		For Work In Restricted Working Space, Add	84.51	
23 31 13	13-0695	LF 36" x 36", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	289.30	148.41
		For Seal Class B, Add	37.10	
		For Seal Class A, Add	79.15	
		For Work In Restricted Working Space, Add	74.20	
23 31 13	13-0696	LF 36" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	297.36	152.54
		For Seal Class B, Add	38.13	
		For Seal Class A, Add	81.35	
		For Work In Restricted Working Space, Add	76.27	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0697	LF	36" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	305.38 39.16 83.55 78.33	156.66
23 31 13	13-0698	LF	36" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	313.42 40.19 85.75 80.39	160.77
23 31 13	13-0699	LF	36" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	321.47 41.23 87.95 82.45	164.91
23 31 13	13-0700	LF	36" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	329.49 42.26 90.14 84.51	169.02
23 31 13	13-0701	LF	36" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	337.53 43.29 92.34 86.57	173.15
23 31 13	13-0702	LF	38" x 38", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	305.38 39.16 83.55 78.33	156.66
23 31 13	13-0703	LF	38" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	313.42 40.19 85.75 80.39	160.77
23 31 13	13-0704	LF	38" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	321.47 41.23 87.95 82.45	164.91
23 31 13	13-0705	LF	38" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	329.49 42.26 90.14 84.51	169.02
23 31 13	13-0706	LF	38" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	337.53 43.29 92.34 86.57	173.15
23 31 13	13-0707	LF	38" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	345.58 44.32 94.54 88.64	177.27
23 31 13	13-0708	LF	38" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	353.61 45.35 96.74 90.70	181.40
23 31 13	13-0709	LF	40" x 40", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	321.47 41.23 87.95 82.45	164.91
23 31 13	13-0710	LF	40" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	329.49 42.26 90.14 84.51	169.02
23 31 13	13-0711	LF	40" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	337.53 43.29 92.34 86.57	173.15
23 31 13	13-0712	LF	40" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	345.58 44.32 94.54 88.64	177.27
23 31 13	13-0713	LF	40" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	353.61 45.35 96.74 90.70	181.40
23 31 13	13-0714	LF	40" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	361.65 46.38 98.94 92.76	185.51
23 31 13	13-0715	LF	40" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	369.67 47.41 101.14 94.82	189.64
23 31 13	13-0716	LF	40" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	377.71 48.44 103.33 96.68	193.76
23 31 13	13-0717	LF	40" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	385.76 49.47 105.54 98.94	197.88

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0718	LF 42" x 42", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	337.53	173.15
		For Seal Class B, Add	43.29	
		For Seal Class A, Add	92.34	
		For Work In Restricted Working Space, Add	86.57	
23 31 13	13-0719	LF 42" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.58	177.27
		For Seal Class B, Add	44.32	
		For Seal Class A, Add	94.54	
		For Work In Restricted Working Space, Add	88.64	
23 31 13	13-0720	LF 42" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	353.61	181.40
		For Seal Class B, Add	45.35	
		For Seal Class A, Add	96.74	
		For Work In Restricted Working Space, Add	90.70	
23 31 13	13-0721	LF 42" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	361.65	185.51
		For Seal Class B, Add	46.38	
		For Seal Class A, Add	98.94	
		For Work In Restricted Working Space, Add	92.76	
23 31 13	13-0722	LF 42" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	369.67	189.64
		For Seal Class B, Add	47.41	
		For Seal Class A, Add	101.14	
		For Work In Restricted Working Space, Add	94.82	
23 31 13	13-0723	LF 42" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	377.71	193.76
		For Seal Class B, Add	48.44	
		For Seal Class A, Add	103.33	
		For Work In Restricted Working Space, Add	96.88	
23 31 13	13-0724	LF 42" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	385.76	197.88
		For Seal Class B, Add	49.47	
		For Seal Class A, Add	105.54	
		For Work In Restricted Working Space, Add	98.94	
23 31 13	13-0725	LF 42" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	393.78	202.01
		For Seal Class B, Add	50.50	
		For Seal Class A, Add	107.73	
		For Work In Restricted Working Space, Add	101.00	
23 31 13	13-0726	LF 44" x 44", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	353.61	181.40
		For Seal Class B, Add	45.35	
		For Seal Class A, Add	96.74	
		For Work In Restricted Working Space, Add	90.70	
23 31 13	13-0727	LF 44" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	361.65	185.51
		For Seal Class B, Add	46.38	
		For Seal Class A, Add	98.94	
		For Work In Restricted Working Space, Add	92.76	
23 31 13	13-0728	LF 44" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	369.67	189.64
		For Seal Class B, Add	47.41	
		For Seal Class A, Add	101.14	
		For Work In Restricted Working Space, Add	94.82	
23 31 13	13-0729	LF 44" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	377.71	193.76
		For Seal Class B, Add	48.44	
		For Seal Class A, Add	103.33	
		For Work In Restricted Working Space, Add	96.88	
23 31 13	13-0730	LF 44" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	385.76	197.88
		For Seal Class B, Add	49.47	
		For Seal Class A, Add	105.54	
		For Work In Restricted Working Space, Add	98.94	
23 31 13	13-0731	LF 44" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	393.78	202.01
		For Seal Class B, Add	50.50	
		For Seal Class A, Add	107.73	
		For Work In Restricted Working Space, Add	101.00	
23 31 13	13-0732	LF 44" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	401.83	206.13
		For Seal Class B, Add	51.53	
		For Seal Class A, Add	109.93	
		For Work In Restricted Working Space, Add	103.06	
23 31 13	13-0733	LF 46" x 46", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	369.67	189.64
		For Seal Class B, Add	47.41	
		For Seal Class A, Add	101.14	
		For Work In Restricted Working Space, Add	94.82	
23 31 13	13-0734	LF 46" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	377.71	193.76
		For Seal Class B, Add	48.44	
		For Seal Class A, Add	103.33	
		For Work In Restricted Working Space, Add	96.88	
23 31 13	13-0735	LF 46" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	385.76	197.88
		For Seal Class B, Add	49.47	
		For Seal Class A, Add	105.54	
		For Work In Restricted Working Space, Add	98.94	
23 31 13	13-0736	LF 46" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	393.78	202.01
		For Seal Class B, Add	50.50	
		For Seal Class A, Add	107.73	
		For Work In Restricted Working Space, Add	101.00	
23 31 13	13-0737	LF 46" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	401.83	206.13
		For Seal Class B, Add	51.53	
		For Seal Class A, Add	109.93	
		For Work In Restricted Working Space, Add	103.06	
23 31 13	13-0738	LF 46" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	416.74	214.38
		For Seal Class B, Add	53.59	
		For Seal Class A, Add	114.33	
		For Work In Restricted Working Space, Add	107.18	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0739	LF	46" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	424.77	218.49
			For Seal Class B, Add	54.62	
			For Seal Class A, Add	116.53	
			For Work In Restricted Working Space, Add	109.25	
23 31 13	13-0740	LF	48" x 48", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	385.76	197.88
			For Seal Class B, Add	49.47	
			For Seal Class A, Add	105.54	
			For Work In Restricted Working Space, Add	98.94	
23 31 13	13-0741	LF	48" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	393.78	202.01
			For Seal Class B, Add	50.50	
			For Seal Class A, Add	107.73	
			For Work In Restricted Working Space, Add	101.00	
23 31 13	13-0742	LF	48" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	401.83	206.13
			For Seal Class B, Add	51.53	
			For Seal Class A, Add	109.93	
			For Work In Restricted Working Space, Add	103.06	
23 31 13	13-0743	LF	48" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	409.88	210.24
			For Seal Class B, Add	52.56	
			For Seal Class A, Add	112.13	
			For Work In Restricted Working Space, Add	105.13	
23 31 13	13-0744	LF	48" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	417.89	214.38
			For Seal Class B, Add	53.59	
			For Seal Class A, Add	114.33	
			For Work In Restricted Working Space, Add	107.18	
23 31 13	13-0745	LF	48" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	425.95	218.49
			For Seal Class B, Add	54.62	
			For Seal Class A, Add	116.53	
			For Work In Restricted Working Space, Add	109.25	
23 31 13	13-0746	LF	48" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	433.96	222.62
			For Seal Class B, Add	55.65	
			For Seal Class A, Add	118.73	
			For Work In Restricted Working Space, Add	111.31	
23 31 13	13-0747	LF	50" x 50", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	401.83	206.13
			For Seal Class B, Add	51.53	
			For Seal Class A, Add	109.93	
			For Work In Restricted Working Space, Add	103.06	
23 31 13	13-0748	LF	50" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	409.88	210.24
			For Seal Class B, Add	52.56	
			For Seal Class A, Add	112.13	
			For Work In Restricted Working Space, Add	105.13	
23 31 13	13-0749	LF	50" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	417.89	214.38
			For Seal Class B, Add	53.59	
			For Seal Class A, Add	114.33	
			For Work In Restricted Working Space, Add	107.18	
23 31 13	13-0750	LF	50" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	425.95	218.49
			For Seal Class B, Add	54.62	
			For Seal Class A, Add	116.53	
			For Work In Restricted Working Space, Add	109.25	
23 31 13	13-0751	LF	50" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	433.96	222.62
			For Seal Class B, Add	55.65	
			For Seal Class A, Add	118.73	
			For Work In Restricted Working Space, Add	111.31	
23 31 13	13-0752	LF	50" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	442.00	226.74
			For Seal Class B, Add	56.68	
			For Seal Class A, Add	120.92	
			For Work In Restricted Working Space, Add	113.37	
23 31 13	13-0753	LF	52" x 52", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	417.89	214.38
			For Seal Class B, Add	53.59	
			For Seal Class A, Add	114.33	
			For Work In Restricted Working Space, Add	107.18	
23 31 13	13-0754	LF	52" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	425.95	218.49
			For Seal Class B, Add	54.62	
			For Seal Class A, Add	116.53	
			For Work In Restricted Working Space, Add	109.25	
23 31 13	13-0755	LF	52" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	433.96	222.62
			For Seal Class B, Add	55.65	
			For Seal Class A, Add	118.73	
			For Work In Restricted Working Space, Add	111.31	
23 31 13	13-0756	LF	52" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	442.00	226.74
			For Seal Class B, Add	56.68	
			For Seal Class A, Add	120.92	
			For Work In Restricted Working Space, Add	113.37	
23 31 13	13-0757	LF	52" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	450.07	230.87
			For Seal Class B, Add	57.72	
			For Seal Class A, Add	123.13	
			For Work In Restricted Working Space, Add	115.43	
23 31 13	13-0758	LF	54" x 54", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	433.96	222.62
			For Seal Class B, Add	55.65	
			For Seal Class A, Add	118.73	
			For Work In Restricted Working Space, Add	111.31	
23 31 13	13-0759	LF	54" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	442.00	226.74
			For Seal Class B, Add	56.68	
			For Seal Class A, Add	120.92	
			For Work In Restricted Working Space, Add	113.37	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0760	LF 54" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	450.07	230.87
		For Seal Class B, Add	57.72	
		For Seal Class A, Add	123.13	
		For Work In Restricted Working Space, Add	115.43	
23 31 13	13-0761	LF 54" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	458.08	234.98
		For Seal Class B, Add	58.75	
		For Seal Class A, Add	125.32	
		For Work In Restricted Working Space, Add	117.49	
23 31 13	13-0762	LF 54" x 62", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	466.12	239.10
		For Seal Class B, Add	59.78	
		For Seal Class A, Add	127.52	
		For Work In Restricted Working Space, Add	119.55	
23 31 13	13-0763	LF 54" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	474.15	243.23
		For Seal Class B, Add	60.81	
		For Seal Class A, Add	129.72	
		For Work In Restricted Working Space, Add	121.61	
23 31 13	13-0764	LF 56" x 56", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	450.07	230.87
		For Seal Class B, Add	57.72	
		For Seal Class A, Add	123.13	
		For Work In Restricted Working Space, Add	115.43	
23 31 13	13-0765	LF 56" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	458.08	234.98
		For Seal Class B, Add	58.75	
		For Seal Class A, Add	125.32	
		For Work In Restricted Working Space, Add	117.49	
23 31 13	13-0766	LF 56" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	466.12	239.10
		For Seal Class B, Add	59.78	
		For Seal Class A, Add	127.52	
		For Work In Restricted Working Space, Add	119.55	
23 31 13	13-0767	LF 56" x 62", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	474.15	243.23
		For Seal Class B, Add	60.81	
		For Seal Class A, Add	129.72	
		For Work In Restricted Working Space, Add	121.61	
23 31 13	13-0768	LF 56" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	482.19	247.34
		For Seal Class B, Add	61.84	
		For Seal Class A, Add	131.92	
		For Work In Restricted Working Space, Add	123.68	
23 31 13	13-0769	LF 58" x 58", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	466.12	239.10
		For Seal Class B, Add	59.78	
		For Seal Class A, Add	127.52	
		For Work In Restricted Working Space, Add	119.55	
23 31 13	13-0770	LF 58" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	474.15	243.23
		For Seal Class B, Add	60.81	
		For Seal Class A, Add	129.72	
		For Work In Restricted Working Space, Add	121.61	
23 31 13	13-0771	LF 58" x 62", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	482.19	247.34
		For Seal Class B, Add	61.84	
		For Seal Class A, Add	131.92	
		For Work In Restricted Working Space, Add	123.68	
23 31 13	13-0772	LF 58" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	490.22	251.48
		For Seal Class B, Add	62.87	
		For Seal Class A, Add	134.12	
		For Work In Restricted Working Space, Add	125.73	
23 31 13	13-0773	LF 56" x 66", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	498.26	255.59
		For Seal Class B, Add	63.90	
		For Seal Class A, Add	136.32	
		For Work In Restricted Working Space, Add	127.80	
23 31 13	13-0774	LF 60" x 60", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	482.19	247.34
		For Seal Class B, Add	61.84	
		For Seal Class A, Add	131.92	
		For Work In Restricted Working Space, Add	123.68	
23 31 13	13-0775	LF 60" x 62", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	490.22	251.48
		For Seal Class B, Add	62.87	
		For Seal Class A, Add	134.12	
		For Work In Restricted Working Space, Add	125.73	
23 31 13	13-0776	LF 60" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	498.26	255.59
		For Seal Class B, Add	63.90	
		For Seal Class A, Add	136.32	
		For Work In Restricted Working Space, Add	127.80	
23 31 13	13-0777	LF 60" x 66", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	506.31	259.72
		For Seal Class B, Add	64.93	
		For Seal Class A, Add	138.52	
		For Work In Restricted Working Space, Add	129.86	
23 31 13	13-0778	LF 60" x 68", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	514.35	263.84
		For Seal Class B, Add	65.96	
		For Seal Class A, Add	140.72	
		For Work In Restricted Working Space, Add	131.92	
23 31 13	13-0779	LF 62" x 62", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	498.26	255.59
		For Seal Class B, Add	63.90	
		For Seal Class A, Add	136.32	
		For Work In Restricted Working Space, Add	127.80	
23 31 13	13-0780	LF 62" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	506.31	259.72
		For Seal Class B, Add	64.93	
		For Seal Class A, Add	138.52	
		For Work In Restricted Working Space, Add	129.86	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0781	LF	62" x 66", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	514.35	263.84
		For Seal Class B, Add	.....	65.96	
		For Seal Class A, Add	.....	140.72	
		For Work In Restricted Working Space, Add	.....	131.92	
23 31 13 13-0782	LF	62" x 68", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	522.38	267.96
		For Seal Class B, Add	.....	66.99	
		For Seal Class A, Add	.....	142.92	
		For Work In Restricted Working Space, Add	.....	133.98	
23 31 13 13-0783	LF	62" x 70", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	530.41	272.08
		For Seal Class B, Add	.....	68.02	
		For Seal Class A, Add	.....	145.11	
		For Work In Restricted Working Space, Add	.....	136.04	
23 31 13 13-0784	LF	64" x 64", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	514.35	263.84
		For Seal Class B, Add	.....	65.96	
		For Seal Class A, Add	.....	140.72	
		For Work In Restricted Working Space, Add	.....	131.92	
23 31 13 13-0785	LF	64" x 66", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	522.38	267.96
		For Seal Class B, Add	.....	66.99	
		For Seal Class A, Add	.....	142.92	
		For Work In Restricted Working Space, Add	.....	133.98	
23 31 13 13-0786	LF	64" x 68", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	530.41	272.08
		For Seal Class B, Add	.....	68.02	
		For Seal Class A, Add	.....	145.11	
		For Work In Restricted Working Space, Add	.....	136.04	
23 31 13 13-0787	LF	64" x 70", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	538.44	276.21
		For Seal Class B, Add	.....	69.05	
		For Seal Class A, Add	.....	147.31	
		For Work In Restricted Working Space, Add	.....	138.11	
23 31 13 13-0788	LF	66" x 66", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	530.41	272.08
		For Seal Class B, Add	.....	68.02	
		For Seal Class A, Add	.....	145.11	
		For Work In Restricted Working Space, Add	.....	136.04	
23 31 13 13-0789	LF	66" x 68", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	538.44	276.21
		For Seal Class B, Add	.....	69.05	
		For Seal Class A, Add	.....	147.31	
		For Work In Restricted Working Space, Add	.....	138.11	
23 31 13 13-0790	LF	66" x 70", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	546.48	280.33
		For Seal Class B, Add	.....	70.08	
		For Seal Class A, Add	.....	149.51	
		For Work In Restricted Working Space, Add	.....	140.16	
23 31 13 13-0791	LF	66" x 72", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	554.52	284.45
		For Seal Class B, Add	.....	71.11	
		For Seal Class A, Add	.....	151.71	
		For Work In Restricted Working Space, Add	.....	142.22	
23 31 13 13-0792	LF	68" x 68", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	546.48	280.33
		For Seal Class B, Add	.....	70.08	
		For Seal Class A, Add	.....	149.51	
		For Work In Restricted Working Space, Add	.....	140.16	
23 31 13 13-0793	LF	68" x 70", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	554.52	284.45
		For Seal Class B, Add	.....	71.11	
		For Seal Class A, Add	.....	151.71	
		For Work In Restricted Working Space, Add	.....	142.22	
23 31 13 13-0794	LF	68" x 72", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	562.55	288.57
		For Seal Class B, Add	.....	72.14	
		For Seal Class A, Add	.....	153.91	
		For Work In Restricted Working Space, Add	.....	144.29	
23 31 13 13-0795	LF	68" x 74", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	570.60	292.70
		For Seal Class B, Add	.....	73.17	
		For Seal Class A, Add	.....	156.11	
		For Work In Restricted Working Space, Add	.....	146.35	
23 31 13 13-0796	LF	70" x 70", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	562.55	288.57
		For Seal Class B, Add	.....	72.14	
		For Seal Class A, Add	.....	153.91	
		For Work In Restricted Working Space, Add	.....	144.29	
23 31 13 13-0797	LF	70" x 72", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	570.60	292.70
		For Seal Class B, Add	.....	73.17	
		For Seal Class A, Add	.....	156.11	
		For Work In Restricted Working Space, Add	.....	146.35	
23 31 13 13-0798	LF	70" x 74", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	578.65	296.81
		For Seal Class B, Add	.....	74.21	
		For Seal Class A, Add	.....	158.31	
		For Work In Restricted Working Space, Add	.....	148.41	
23 31 13 13-0799	LF	70" x 76", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	586.66	300.95
		For Seal Class B, Add	.....	75.24	
		For Seal Class A, Add	.....	160.50	
		For Work In Restricted Working Space, Add	.....	150.47	
23 31 13 13-0800	LF	70" x 78", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	594.71	305.06
		For Seal Class B, Add	.....	76.27	
		For Seal Class A, Add	.....	162.70	
		For Work In Restricted Working Space, Add	.....	152.53	
23 31 13 13-0801	LF	70" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	602.73	309.19
		For Seal Class B, Add	.....	77.30	
		For Seal Class A, Add	.....	164.90	
		For Work In Restricted Working Space, Add	.....	154.59	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0802	LF 70" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	610.78	313.31
		For Seal Class B, Add	78.33	
		For Seal Class A, Add	167.10	
		For Work In Restricted Working Space, Add	156.66	
23 31 13	13-0803	LF 70" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	618.82	317.43
		For Seal Class B, Add	79.36	
		For Seal Class A, Add	169.30	
		For Work In Restricted Working Space, Add	158.72	
23 31 13	13-0804	LF 72" x 72", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	578.65	296.81
		For Seal Class B, Add	74.21	
		For Seal Class A, Add	158.31	
		For Work In Restricted Working Space, Add	148.41	
23 31 13	13-0805	LF 72" x 74", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	586.66	300.95
		For Seal Class B, Add	75.24	
		For Seal Class A, Add	160.50	
		For Work In Restricted Working Space, Add	150.47	
23 31 13	13-0806	LF 72" x 76", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	594.71	305.06
		For Seal Class B, Add	76.27	
		For Seal Class A, Add	162.70	
		For Work In Restricted Working Space, Add	152.53	
23 31 13	13-0807	LF 72" x 78", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	602.73	309.19
		For Seal Class B, Add	77.30	
		For Seal Class A, Add	164.90	
		For Work In Restricted Working Space, Add	154.59	
23 31 13	13-0808	LF 72" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	610.78	313.31
		For Seal Class B, Add	78.33	
		For Seal Class A, Add	167.10	
		For Work In Restricted Working Space, Add	156.66	
23 31 13	13-0809	LF 72" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	618.82	317.43
		For Seal Class B, Add	79.36	
		For Seal Class A, Add	169.30	
		For Work In Restricted Working Space, Add	158.72	
23 31 13	13-0810	LF 72" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	626.85	321.55
		For Seal Class B, Add	80.39	
		For Seal Class A, Add	171.50	
		For Work In Restricted Working Space, Add	160.78	
23 31 13	13-0811	LF 74" x 74", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	594.71	305.06
		For Seal Class B, Add	76.27	
		For Seal Class A, Add	162.70	
		For Work In Restricted Working Space, Add	152.53	
23 31 13	13-0812	LF 74" x 76", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	602.73	309.19
		For Seal Class B, Add	77.30	
		For Seal Class A, Add	164.90	
		For Work In Restricted Working Space, Add	154.59	
23 31 13	13-0813	LF 74" x 78", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	610.78	313.31
		For Seal Class B, Add	78.33	
		For Seal Class A, Add	167.10	
		For Work In Restricted Working Space, Add	156.66	
23 31 13	13-0814	LF 74" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	618.82	317.43
		For Seal Class B, Add	79.36	
		For Seal Class A, Add	169.30	
		For Work In Restricted Working Space, Add	158.72	
23 31 13	13-0815	LF 74" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	626.85	321.55
		For Seal Class B, Add	80.39	
		For Seal Class A, Add	171.50	
		For Work In Restricted Working Space, Add	160.78	
23 31 13	13-0816	LF 74" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	634.89	325.68
		For Seal Class B, Add	81.42	
		For Seal Class A, Add	173.70	
		For Work In Restricted Working Space, Add	162.84	
23 31 13	13-0817	LF 76" x 76", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	610.78	313.31
		For Seal Class B, Add	78.33	
		For Seal Class A, Add	167.10	
		For Work In Restricted Working Space, Add	156.66	
23 31 13	13-0818	LF 76" x 78", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	618.82	317.43
		For Seal Class B, Add	79.36	
		For Seal Class A, Add	169.30	
		For Work In Restricted Working Space, Add	158.72	
23 31 13	13-0819	LF 76" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	626.85	321.55
		For Seal Class B, Add	80.39	
		For Seal Class A, Add	171.50	
		For Work In Restricted Working Space, Add	160.78	
23 31 13	13-0820	LF 76" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	634.89	325.68
		For Seal Class B, Add	81.42	
		For Seal Class A, Add	173.70	
		For Work In Restricted Working Space, Add	162.84	
23 31 13	13-0821	LF 76" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	642.91	329.80
		For Seal Class B, Add	82.45	
		For Seal Class A, Add	175.89	
		For Work In Restricted Working Space, Add	164.90	
23 31 13	13-0822	LF 78" x 78", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	626.85	321.55
		For Seal Class B, Add	80.39	
		For Seal Class A, Add	171.50	
		For Work In Restricted Working Space, Add	160.78	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0823	LF	78" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	634.89	325.68
		For Seal Class B, Add	81.42		
		For Seal Class A, Add	173.70		
		For Work In Restricted Working Space, Add	162.84		
23 31 13 13-0824	LF	78" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	642.91	329.80
		For Seal Class B, Add	82.45		
		For Seal Class A, Add	175.89		
		For Work In Restricted Working Space, Add	164.90		
23 31 13 13-0825	LF	78" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	650.96	333.92
		For Seal Class B, Add	83.48		
		For Seal Class A, Add	178.09		
		For Work In Restricted Working Space, Add	166.96		
23 31 13 13-0826	LF	80" x 80", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	642.91	329.80
		For Seal Class B, Add	82.45		
		For Seal Class A, Add	175.89		
		For Work In Restricted Working Space, Add	164.90		
23 31 13 13-0827	LF	80" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	650.96	333.92
		For Seal Class B, Add	83.48		
		For Seal Class A, Add	178.09		
		For Work In Restricted Working Space, Add	166.96		
23 31 13 13-0828	LF	80" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	658.99	338.04
		For Seal Class B, Add	84.51		
		For Seal Class A, Add	180.29		
		For Work In Restricted Working Space, Add	169.02		
23 31 13 13-0829	LF	82" x 82", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	658.99	338.04
		For Seal Class B, Add	84.51		
		For Seal Class A, Add	180.29		
		For Work In Restricted Working Space, Add	169.02		
23 31 13 13-0830	LF	82" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	667.04	342.17
		For Seal Class B, Add	85.54		
		For Seal Class A, Add	182.49		
		For Work In Restricted Working Space, Add	171.09		
23 31 13 13-0831	LF	84" x 84", 20 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	675.07	346.28
		For Seal Class B, Add	86.57		
		For Seal Class A, Add	184.69		
		For Work In Restricted Working Space, Add	173.15		
23 31 13 13-0832	18 Gauge Galvanized Steel Metal Ductwork (23 31 13 13-0014)				
23 31 13 13-0833	LF	4" x 4", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	41.86	21.46
		For Seal Class B, Add	5.37		
		For Seal Class A, Add	11.45		
		For Work In Restricted Working Space, Add	10.74		
23 31 13 13-0834	LF	4" x 6", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	52.32	26.83
		For Seal Class B, Add	6.71		
		For Seal Class A, Add	14.31		
		For Work In Restricted Working Space, Add	13.42		
23 31 13 13-0835	LF	4" x 8", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	62.77	32.21
		For Seal Class B, Add	8.05		
		For Seal Class A, Add	17.17		
		For Work In Restricted Working Space, Add	16.10		
23 31 13 13-0836	LF	4" x 10", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	73.23	37.57
		For Seal Class B, Add	9.39		
		For Seal Class A, Add	20.04		
		For Work In Restricted Working Space, Add	18.79		
23 31 13 13-0837	LF	4" x 12", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	83.71	42.94
		For Seal Class B, Add	10.73		
		For Seal Class A, Add	22.90		
		For Work In Restricted Working Space, Add	21.47		
23 31 13 13-0838	LF	4" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	94.16	48.31
		For Seal Class B, Add	12.08		
		For Seal Class A, Add	25.76		
		For Work In Restricted Working Space, Add	24.15		
23 31 13 13-0839	LF	4" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	104.63	53.67
		For Seal Class B, Add	13.42		
		For Seal Class A, Add	28.62		
		For Work In Restricted Working Space, Add	26.84		
23 31 13 13-0840	LF	6" x 6", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	62.77	32.21
		For Seal Class B, Add	8.05		
		For Seal Class A, Add	17.17		
		For Work In Restricted Working Space, Add	16.10		
23 31 13 13-0841	LF	6" x 8", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	73.23	37.57
		For Seal Class B, Add	9.39		
		For Seal Class A, Add	20.04		
		For Work In Restricted Working Space, Add	18.79		
23 31 13 13-0842	LF	6" x 10", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	83.71	42.94
		For Seal Class B, Add	10.73		
		For Seal Class A, Add	22.90		
		For Work In Restricted Working Space, Add	21.47		
23 31 13 13-0843	LF	6" x 12", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	94.16	48.31
		For Seal Class B, Add	12.08		
		For Seal Class A, Add	25.76		
		For Work In Restricted Working Space, Add	24.15		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0844	LF 6" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.63	53.67
		For Seal Class B, Add	13.42	
		For Seal Class A, Add	28.62	
		For Work In Restricted Working Space, Add	26.84	
23 31 13	13-0845	LF 6" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.10	59.04
		For Seal Class B, Add	14.76	
		For Seal Class A, Add	31.49	
		For Work In Restricted Working Space, Add	29.52	
23 31 13	13-0846	LF 8" x 8", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	83.71	42.94
		For Seal Class B, Add	10.73	
		For Seal Class A, Add	22.90	
		For Work In Restricted Working Space, Add	21.47	
23 31 13	13-0847	LF 8" x 10", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	94.16	48.31
		For Seal Class B, Add	12.08	
		For Seal Class A, Add	25.76	
		For Work In Restricted Working Space, Add	24.15	
23 31 13	13-0848	LF 8" x 12", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.63	53.67
		For Seal Class B, Add	13.42	
		For Seal Class A, Add	28.62	
		For Work In Restricted Working Space, Add	26.84	
23 31 13	13-0849	LF 8" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.10	59.04
		For Seal Class B, Add	14.76	
		For Seal Class A, Add	31.49	
		For Work In Restricted Working Space, Add	29.52	
23 31 13	13-0850	LF 8" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	125.55	64.40
		For Seal Class B, Add	16.10	
		For Seal Class A, Add	34.35	
		For Work In Restricted Working Space, Add	32.21	
23 31 13	13-0851	LF 8" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.03	69.77
		For Seal Class B, Add	17.44	
		For Seal Class A, Add	37.21	
		For Work In Restricted Working Space, Add	34.89	
23 31 13	13-0852	LF 8" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.48	75.14
		For Seal Class B, Add	18.78	
		For Seal Class A, Add	40.07	
		For Work In Restricted Working Space, Add	37.57	
23 31 13	13-0853	LF 8" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.94	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.94	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0854	LF 8" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	167.40	85.88
		For Seal Class B, Add	21.47	
		For Seal Class A, Add	45.80	
		For Work In Restricted Working Space, Add	42.94	
23 31 13	13-0855	LF 10" x 10", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	104.63	53.67
		For Seal Class B, Add	13.42	
		For Seal Class A, Add	28.62	
		For Work In Restricted Working Space, Add	26.84	
23 31 13	13-0856	LF 10" x 12", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	115.10	59.04
		For Seal Class B, Add	14.76	
		For Seal Class A, Add	31.49	
		For Work In Restricted Working Space, Add	29.52	
23 31 13	13-0857	LF 10" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	125.55	64.40
		For Seal Class B, Add	16.10	
		For Seal Class A, Add	34.35	
		For Work In Restricted Working Space, Add	32.21	
23 31 13	13-0858	LF 10" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.03	69.77
		For Seal Class B, Add	17.44	
		For Seal Class A, Add	37.21	
		For Work In Restricted Working Space, Add	34.89	
23 31 13	13-0859	LF 10" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.48	75.14
		For Seal Class B, Add	18.78	
		For Seal Class A, Add	40.07	
		For Work In Restricted Working Space, Add	37.57	
23 31 13	13-0860	LF 10" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.94	80.50
		For Seal Class B, Add	20.13	
		For Seal Class A, Add	42.94	
		For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0861	LF 10" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	167.40	85.88
		For Seal Class B, Add	21.47	
		For Seal Class A, Add	45.80	
		For Work In Restricted Working Space, Add	42.94	
23 31 13	13-0862	LF 10" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.86	91.25
		For Seal Class B, Add	22.81	
		For Seal Class A, Add	48.66	
		For Work In Restricted Working Space, Add	45.62	
23 31 13	13-0863	LF 10" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	188.35	96.61
		For Seal Class B, Add	24.15	
		For Seal Class A, Add	51.53	
		For Work In Restricted Working Space, Add	48.31	
23 31 13	13-0864	LF 10" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	198.81	101.98
		For Seal Class B, Add	25.50	
		For Seal Class A, Add	54.39	
		For Work In Restricted Working Space, Add	50.99	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0865	LF	10" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	209.26	107.35
			For Seal Class B, Add	26.84	
			For Seal Class A, Add	57.25	
			For Work In Restricted Working Space, Add	53.67	
23 31 13	13-0866	LF	10" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	219.71	112.71
			For Seal Class B, Add	28.18	
			For Seal Class A, Add	60.11	
			For Work In Restricted Working Space, Add	56.36	
23 31 13	13-0867	LF	12" x 12", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	125.55	64.40
			For Seal Class B, Add	16.10	
			For Seal Class A, Add	34.35	
			For Work In Restricted Working Space, Add	32.21	
23 31 13	13-0868	LF	12" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	136.03	69.77
			For Seal Class B, Add	17.44	
			For Seal Class A, Add	37.21	
			For Work In Restricted Working Space, Add	34.99	
23 31 13	13-0869	LF	12" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.48	75.14
			For Seal Class B, Add	18.78	
			For Seal Class A, Add	40.07	
			For Work In Restricted Working Space, Add	37.57	
23 31 13	13-0870	LF	12" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.94	80.50
			For Seal Class B, Add	20.13	
			For Seal Class A, Add	42.94	
			For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0871	LF	12" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	167.40	85.88
			For Seal Class B, Add	21.47	
			For Seal Class A, Add	45.80	
			For Work In Restricted Working Space, Add	42.94	
23 31 13	13-0872	LF	12" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.86	91.25
			For Seal Class B, Add	22.81	
			For Seal Class A, Add	48.66	
			For Work In Restricted Working Space, Add	45.62	
23 31 13	13-0873	LF	12" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	188.35	96.61
			For Seal Class B, Add	24.15	
			For Seal Class A, Add	51.53	
			For Work In Restricted Working Space, Add	48.31	
23 31 13	13-0874	LF	12" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	198.81	101.98
			For Seal Class B, Add	25.50	
			For Seal Class A, Add	54.39	
			For Work In Restricted Working Space, Add	50.99	
23 31 13	13-0875	LF	12" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	209.26	107.35
			For Seal Class B, Add	26.84	
			For Seal Class A, Add	57.25	
			For Work In Restricted Working Space, Add	53.67	
23 31 13	13-0876	LF	12" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	219.71	112.71
			For Seal Class B, Add	28.18	
			For Seal Class A, Add	60.11	
			For Work In Restricted Working Space, Add	56.36	
23 31 13	13-0877	LF	12" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	230.17	118.08
			For Seal Class B, Add	29.52	
			For Seal Class A, Add	62.97	
			For Work In Restricted Working Space, Add	59.04	
23 31 13	13-0878	LF	12" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	240.65	123.45
			For Seal Class B, Add	30.86	
			For Seal Class A, Add	65.84	
			For Work In Restricted Working Space, Add	61.72	
23 31 13	13-0879	LF	12" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
			For Seal Class B, Add	32.20	
			For Seal Class A, Add	68.70	
			For Work In Restricted Working Space, Add	64.41	
23 31 13	13-0880	LF	14" x 14", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	146.48	75.14
			For Seal Class B, Add	18.78	
			For Seal Class A, Add	40.07	
			For Work In Restricted Working Space, Add	37.57	
23 31 13	13-0881	LF	14" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	156.94	80.50
			For Seal Class B, Add	20.13	
			For Seal Class A, Add	42.94	
			For Work In Restricted Working Space, Add	40.25	
23 31 13	13-0882	LF	14" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	167.40	85.88
			For Seal Class B, Add	21.47	
			For Seal Class A, Add	45.80	
			For Work In Restricted Working Space, Add	42.94	
23 31 13	13-0883	LF	14" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.86	91.25
			For Seal Class B, Add	22.81	
			For Seal Class A, Add	48.66	
			For Work In Restricted Working Space, Add	45.62	
23 31 13	13-0884	LF	14" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	188.35	96.61
			For Seal Class B, Add	24.15	
			For Seal Class A, Add	51.53	
			For Work In Restricted Working Space, Add	48.31	
23 31 13	13-0885	LF	14" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	198.81	101.98
			For Seal Class B, Add	25.50	
			For Seal Class A, Add	54.39	
			For Work In Restricted Working Space, Add	50.99	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0886	LF 14" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	209.26	107.35
		For Seal Class B, Add	26.84	
		For Seal Class A, Add	57.25	
		For Work In Restricted Working Space, Add	53.67	
23 31 13	13-0887	LF 14" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	219.71	112.71
		For Seal Class B, Add	28.18	
		For Seal Class A, Add	60.11	
		For Work In Restricted Working Space, Add	56.36	
23 31 13	13-0888	LF 14" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	230.17	118.08
		For Seal Class B, Add	29.52	
		For Seal Class A, Add	62.97	
		For Work In Restricted Working Space, Add	59.04	
23 31 13	13-0889	LF 14" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	240.65	123.45
		For Seal Class B, Add	30.86	
		For Seal Class A, Add	65.84	
		For Work In Restricted Working Space, Add	61.72	
23 31 13	13-0890	LF 14" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
		For Seal Class B, Add	32.20	
		For Seal Class A, Add	68.70	
		For Work In Restricted Working Space, Add	64.41	
23 31 13	13-0891	LF 14" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	261.58	134.18
		For Seal Class B, Add	33.55	
		For Seal Class A, Add	71.56	
		For Work In Restricted Working Space, Add	67.09	
23 31 13	13-0892	LF 16" x 16", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	167.40	85.88
		For Seal Class B, Add	21.47	
		For Seal Class A, Add	45.80	
		For Work In Restricted Working Space, Add	42.94	
23 31 13	13-0893	LF 16" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	177.86	91.25
		For Seal Class B, Add	22.81	
		For Seal Class A, Add	48.66	
		For Work In Restricted Working Space, Add	45.62	
23 31 13	13-0894	LF 16" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	188.35	96.61
		For Seal Class B, Add	24.15	
		For Seal Class A, Add	51.53	
		For Work In Restricted Working Space, Add	48.31	
23 31 13	13-0895	LF 16" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	198.81	101.98
		For Seal Class B, Add	25.50	
		For Seal Class A, Add	54.39	
		For Work In Restricted Working Space, Add	50.99	
23 31 13	13-0896	LF 16" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	209.26	107.35
		For Seal Class B, Add	26.84	
		For Seal Class A, Add	57.25	
		For Work In Restricted Working Space, Add	53.67	
23 31 13	13-0897	LF 16" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	219.71	112.71
		For Seal Class B, Add	28.18	
		For Seal Class A, Add	60.11	
		For Work In Restricted Working Space, Add	56.36	
23 31 13	13-0898	LF 16" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	230.17	118.08
		For Seal Class B, Add	29.52	
		For Seal Class A, Add	62.97	
		For Work In Restricted Working Space, Add	59.04	
23 31 13	13-0899	LF 16" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	240.65	123.45
		For Seal Class B, Add	30.86	
		For Seal Class A, Add	65.84	
		For Work In Restricted Working Space, Add	61.72	
23 31 13	13-0900	LF 16" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
		For Seal Class B, Add	32.20	
		For Seal Class A, Add	68.70	
		For Work In Restricted Working Space, Add	64.41	
23 31 13	13-0901	LF 16" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	261.58	134.18
		For Seal Class B, Add	33.55	
		For Seal Class A, Add	71.56	
		For Work In Restricted Working Space, Add	67.09	
23 31 13	13-0902	LF 16" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.03	139.54
		For Seal Class B, Add	34.89	
		For Seal Class A, Add	74.43	
		For Work In Restricted Working Space, Add	69.77	
23 31 13	13-0903	LF 16" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	282.50	144.91
		For Seal Class B, Add	36.23	
		For Seal Class A, Add	77.29	
		For Work In Restricted Working Space, Add	72.46	
23 31 13	13-0904	LF 16" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
		For Seal Class B, Add	37.57	
		For Seal Class A, Add	80.15	
		For Work In Restricted Working Space, Add	75.14	
23 31 13	13-0905	LF 16" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
		For Seal Class B, Add	38.91	
		For Seal Class A, Add	83.01	
		For Work In Restricted Working Space, Add	77.82	
23 31 13	13-0906	LF 16" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.88	
		For Work In Restricted Working Space, Add	80.51	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0907	LF	18" x 18", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	188.35	96.61
		For Seal Class B, Add	24.15		
		For Seal Class A, Add	51.53		
		For Work In Restricted Working Space, Add	48.31		
23 31 13 13-0908	LF	18" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	198.81	101.98
		For Seal Class B, Add	25.50		
		For Seal Class A, Add	54.39		
		For Work In Restricted Working Space, Add	50.99		
23 31 13 13-0909	LF	18" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	209.26	107.35
		For Seal Class B, Add	26.84		
		For Seal Class A, Add	57.25		
		For Work In Restricted Working Space, Add	53.67		
23 31 13 13-0910	LF	18" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	219.71	112.71
		For Seal Class B, Add	28.18		
		For Seal Class A, Add	60.11		
		For Work In Restricted Working Space, Add	56.36		
23 31 13 13-0911	LF	18" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	230.17	118.08
		For Seal Class B, Add	29.52		
		For Seal Class A, Add	62.97		
		For Work In Restricted Working Space, Add	59.04		
23 31 13 13-0912	LF	18" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	240.65	123.45
		For Seal Class B, Add	30.86		
		For Seal Class A, Add	65.84		
		For Work In Restricted Working Space, Add	61.72		
23 31 13 13-0913	LF	18" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	251.12	128.81
		For Seal Class B, Add	32.20		
		For Seal Class A, Add	68.70		
		For Work In Restricted Working Space, Add	64.41		
23 31 13 13-0914	LF	18" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	261.58	134.18
		For Seal Class B, Add	33.55		
		For Seal Class A, Add	71.56		
		For Work In Restricted Working Space, Add	67.09		
23 31 13 13-0915	LF	18" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	272.03	139.54
		For Seal Class B, Add	34.89		
		For Seal Class A, Add	74.43		
		For Work In Restricted Working Space, Add	69.77		
23 31 13 13-0916	LF	18" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	282.50	144.91
		For Seal Class B, Add	36.23		
		For Seal Class A, Add	77.29		
		For Work In Restricted Working Space, Add	72.46		
23 31 13 13-0917	LF	18" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	292.97	150.29
		For Seal Class B, Add	37.57		
		For Seal Class A, Add	80.15		
		For Work In Restricted Working Space, Add	75.14		
23 31 13 13-0918	LF	18" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	303.42	155.65
		For Seal Class B, Add	38.91		
		For Seal Class A, Add	83.01		
		For Work In Restricted Working Space, Add	77.82		
23 31 13 13-0919	LF	18" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	313.89	161.02
		For Seal Class B, Add	40.25		
		For Seal Class A, Add	85.88		
		For Work In Restricted Working Space, Add	80.51		
23 31 13 13-0920	LF	18" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	324.35	166.39
		For Seal Class B, Add	41.60		
		For Seal Class A, Add	88.74		
		For Work In Restricted Working Space, Add	83.19		
23 31 13 13-0921	LF	18" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	334.84	171.75
		For Seal Class B, Add	42.94		
		For Seal Class A, Add	91.60		
		For Work In Restricted Working Space, Add	85.88		
23 31 13 13-0922	LF	20" x 20", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	209.26	107.35
		For Seal Class B, Add	26.84		
		For Seal Class A, Add	57.25		
		For Work In Restricted Working Space, Add	53.67		
23 31 13 13-0923	LF	20" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	219.71	112.71
		For Seal Class B, Add	28.18		
		For Seal Class A, Add	60.11		
		For Work In Restricted Working Space, Add	56.36		
23 31 13 13-0924	LF	20" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	230.17	118.08
		For Seal Class B, Add	29.52		
		For Seal Class A, Add	62.97		
		For Work In Restricted Working Space, Add	59.04		
23 31 13 13-0925	LF	20" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	240.65	123.45
		For Seal Class B, Add	30.86		
		For Seal Class A, Add	65.84		
		For Work In Restricted Working Space, Add	61.72		
23 31 13 13-0926	LF	20" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	251.12	128.81
		For Seal Class B, Add	32.20		
		For Seal Class A, Add	68.70		
		For Work In Restricted Working Space, Add	64.41		
23 31 13 13-0927	LF	20" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	261.58	134.18
		For Seal Class B, Add	33.55		
		For Seal Class A, Add	71.56		
		For Work In Restricted Working Space, Add	67.09		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0928	LF 20" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.03	139.54
		For Seal Class B, Add	34.89	
		For Seal Class A, Add	74.43	
		For Work In Restricted Working Space, Add	69.77	
23 31 13	13-0929	LF 20" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	282.50	144.91
		For Seal Class B, Add	36.23	
		For Seal Class A, Add	77.29	
		For Work In Restricted Working Space, Add	72.46	
23 31 13	13-0930	LF 20" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
		For Seal Class B, Add	37.57	
		For Seal Class A, Add	80.15	
		For Work In Restricted Working Space, Add	75.14	
23 31 13	13-0931	LF 20" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
		For Seal Class B, Add	38.91	
		For Seal Class A, Add	83.01	
		For Work In Restricted Working Space, Add	77.82	
23 31 13	13-0932	LF 20" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.88	
		For Work In Restricted Working Space, Add	80.51	
23 31 13	13-0933	LF 20" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39
		For Seal Class B, Add	41.60	
		For Seal Class A, Add	88.74	
		For Work In Restricted Working Space, Add	83.19	
23 31 13	13-0934	LF 20" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
		For Seal Class B, Add	42.94	
		For Seal Class A, Add	91.60	
		For Work In Restricted Working Space, Add	85.88	
23 31 13	13-0935	LF 20" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11
		For Seal Class B, Add	44.28	
		For Seal Class A, Add	94.46	
		For Work In Restricted Working Space, Add	88.56	
23 31 13	13-0936	LF 20" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49
		For Seal Class B, Add	45.62	
		For Seal Class A, Add	97.32	
		For Work In Restricted Working Space, Add	91.24	
23 31 13	13-0937	LF 22" x 22", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	230.17	118.08
		For Seal Class B, Add	29.52	
		For Seal Class A, Add	62.97	
		For Work In Restricted Working Space, Add	59.04	
23 31 13	13-0938	LF 22" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	240.65	123.45
		For Seal Class B, Add	30.86	
		For Seal Class A, Add	65.84	
		For Work In Restricted Working Space, Add	61.72	
23 31 13	13-0939	LF 22" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
		For Seal Class B, Add	32.20	
		For Seal Class A, Add	68.70	
		For Work In Restricted Working Space, Add	64.41	
23 31 13	13-0940	LF 22" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	261.58	134.18
		For Seal Class B, Add	33.55	
		For Seal Class A, Add	71.56	
		For Work In Restricted Working Space, Add	67.09	
23 31 13	13-0941	LF 22" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.03	139.54
		For Seal Class B, Add	34.89	
		For Seal Class A, Add	74.43	
		For Work In Restricted Working Space, Add	69.77	
23 31 13	13-0942	LF 22" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	282.50	144.91
		For Seal Class B, Add	36.23	
		For Seal Class A, Add	77.29	
		For Work In Restricted Working Space, Add	72.46	
23 31 13	13-0943	LF 22" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
		For Seal Class B, Add	37.57	
		For Seal Class A, Add	80.15	
		For Work In Restricted Working Space, Add	75.14	
23 31 13	13-0944	LF 22" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
		For Seal Class B, Add	38.91	
		For Seal Class A, Add	83.01	
		For Work In Restricted Working Space, Add	77.82	
23 31 13	13-0945	LF 22" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.88	
		For Work In Restricted Working Space, Add	80.51	
23 31 13	13-0946	LF 22" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39
		For Seal Class B, Add	41.60	
		For Seal Class A, Add	88.74	
		For Work In Restricted Working Space, Add	83.19	
23 31 13	13-0947	LF 22" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
		For Seal Class B, Add	42.94	
		For Seal Class A, Add	91.60	
		For Work In Restricted Working Space, Add	85.88	
23 31 13	13-0948	LF 22" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11
		For Seal Class B, Add	44.28	
		For Seal Class A, Add	94.46	
		For Work In Restricted Working Space, Add	88.56	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0949	LF	22" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49
			For Seal Class B, Add	45.62	
			For Seal Class A, Add	97.32	
			For Work In Restricted Working Space, Add	91.24	
23 31 13	13-0950	LF	22" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	366.21	187.85
			For Seal Class B, Add	46.96	
			For Seal Class A, Add	100.19	
			For Work In Restricted Working Space, Add	93.93	
23 31 13	13-0951	LF	24" x 24", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	251.12	128.81
			For Seal Class B, Add	32.20	
			For Seal Class A, Add	68.70	
			For Work In Restricted Working Space, Add	64.41	
23 31 13	13-0952	LF	24" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	261.58	134.18
			For Seal Class B, Add	33.55	
			For Seal Class A, Add	71.56	
			For Work In Restricted Working Space, Add	67.09	
23 31 13	13-0953	LF	24" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.03	139.54
			For Seal Class B, Add	34.89	
			For Seal Class A, Add	74.43	
			For Work In Restricted Working Space, Add	69.77	
23 31 13	13-0954	LF	24" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	282.50	144.91
			For Seal Class B, Add	36.23	
			For Seal Class A, Add	77.29	
			For Work In Restricted Working Space, Add	72.46	
23 31 13	13-0955	LF	24" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
			For Seal Class B, Add	37.57	
			For Seal Class A, Add	80.15	
			For Work In Restricted Working Space, Add	75.14	
23 31 13	13-0956	LF	24" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
			For Seal Class B, Add	38.91	
			For Seal Class A, Add	83.01	
			For Work In Restricted Working Space, Add	77.82	
23 31 13	13-0957	LF	24" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
			For Seal Class B, Add	40.25	
			For Seal Class A, Add	85.88	
			For Work In Restricted Working Space, Add	80.51	
23 31 13	13-0958	LF	24" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39
			For Seal Class B, Add	41.60	
			For Seal Class A, Add	88.74	
			For Work In Restricted Working Space, Add	83.19	
23 31 13	13-0959	LF	24" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
			For Seal Class B, Add	42.94	
			For Seal Class A, Add	91.60	
			For Work In Restricted Working Space, Add	85.88	
23 31 13	13-0960	LF	24" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11
			For Seal Class B, Add	44.28	
			For Seal Class A, Add	94.46	
			For Work In Restricted Working Space, Add	88.56	
23 31 13	13-0961	LF	24" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49
			For Seal Class B, Add	45.62	
			For Seal Class A, Add	97.32	
			For Work In Restricted Working Space, Add	91.24	
23 31 13	13-0962	LF	24" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	366.21	187.85
			For Seal Class B, Add	46.96	
			For Seal Class A, Add	100.19	
			For Work In Restricted Working Space, Add	93.93	
23 31 13	13-0963	LF	24" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	376.66	193.21
			For Seal Class B, Add	48.30	
			For Seal Class A, Add	103.05	
			For Work In Restricted Working Space, Add	96.61	
23 31 13	13-0964	LF	26" x 26", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	272.03	139.54
			For Seal Class B, Add	34.89	
			For Seal Class A, Add	74.43	
			For Work In Restricted Working Space, Add	69.77	
23 31 13	13-0965	LF	26" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	282.50	144.91
			For Seal Class B, Add	36.23	
			For Seal Class A, Add	77.29	
			For Work In Restricted Working Space, Add	72.46	
23 31 13	13-0966	LF	26" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
			For Seal Class B, Add	37.57	
			For Seal Class A, Add	80.15	
			For Work In Restricted Working Space, Add	75.14	
23 31 13	13-0967	LF	26" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
			For Seal Class B, Add	38.91	
			For Seal Class A, Add	83.01	
			For Work In Restricted Working Space, Add	77.82	
23 31 13	13-0968	LF	26" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
			For Seal Class B, Add	40.25	
			For Seal Class A, Add	85.88	
			For Work In Restricted Working Space, Add	80.51	
23 31 13	13-0969	LF	26" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39
			For Seal Class B, Add	41.60	
			For Seal Class A, Add	88.74	
			For Work In Restricted Working Space, Add	83.19	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-0970	LF 26" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
		For Seal Class B, Add	42.94	
		For Seal Class A, Add	91.60	
		For Work In Restricted Working Space, Add	85.88	
23 31 13	13-0971	LF 26" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11
		For Seal Class B, Add	44.28	
		For Seal Class A, Add	94.46	
		For Work In Restricted Working Space, Add	88.56	
23 31 13	13-0972	LF 26" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49
		For Seal Class B, Add	45.62	
		For Seal Class A, Add	97.32	
		For Work In Restricted Working Space, Add	91.24	
23 31 13	13-0973	LF 26" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	366.21	187.85
		For Seal Class B, Add	46.96	
		For Seal Class A, Add	100.19	
		For Work In Restricted Working Space, Add	93.93	
23 31 13	13-0974	LF 26" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	376.66	193.21
		For Seal Class B, Add	48.30	
		For Seal Class A, Add	103.05	
		For Work In Restricted Working Space, Add	96.61	
23 31 13	13-0975	LF 26" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	387.14	198.59
		For Seal Class B, Add	49.65	
		For Seal Class A, Add	105.91	
		For Work In Restricted Working Space, Add	99.29	
23 31 13	13-0976	LF 28" x 28", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	292.97	150.29
		For Seal Class B, Add	37.57	
		For Seal Class A, Add	80.15	
		For Work In Restricted Working Space, Add	75.14	
23 31 13	13-0977	LF 28" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	303.42	155.65
		For Seal Class B, Add	38.91	
		For Seal Class A, Add	83.01	
		For Work In Restricted Working Space, Add	77.82	
23 31 13	13-0978	LF 28" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.88	
		For Work In Restricted Working Space, Add	80.51	
23 31 13	13-0979	LF 28" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39
		For Seal Class B, Add	41.60	
		For Seal Class A, Add	88.74	
		For Work In Restricted Working Space, Add	83.19	
23 31 13	13-0980	LF 28" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
		For Seal Class B, Add	42.94	
		For Seal Class A, Add	91.60	
		For Work In Restricted Working Space, Add	85.88	
23 31 13	13-0981	LF 28" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11
		For Seal Class B, Add	44.28	
		For Seal Class A, Add	94.46	
		For Work In Restricted Working Space, Add	88.56	
23 31 13	13-0982	LF 28" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	355.74	182.49
		For Seal Class B, Add	45.62	
		For Seal Class A, Add	97.32	
		For Work In Restricted Working Space, Add	91.24	
23 31 13	13-0983	LF 28" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	366.21	187.85
		For Seal Class B, Add	46.96	
		For Seal Class A, Add	100.19	
		For Work In Restricted Working Space, Add	93.93	
23 31 13	13-0984	LF 28" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	376.66	193.21
		For Seal Class B, Add	48.30	
		For Seal Class A, Add	103.05	
		For Work In Restricted Working Space, Add	96.61	
23 31 13	13-0985	LF 28" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	387.14	198.59
		For Seal Class B, Add	49.65	
		For Seal Class A, Add	105.91	
		For Work In Restricted Working Space, Add	99.29	
23 31 13	13-0986	LF 28" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	397.60	203.95
		For Seal Class B, Add	50.99	
		For Seal Class A, Add	108.77	
		For Work In Restricted Working Space, Add	101.98	
23 31 13	13-0987	LF 30" x 30", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	313.89	161.02
		For Seal Class B, Add	40.25	
		For Seal Class A, Add	85.88	
		For Work In Restricted Working Space, Add	80.51	
23 31 13	13-0988	LF 30" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	324.35	166.39
		For Seal Class B, Add	41.60	
		For Seal Class A, Add	88.74	
		For Work In Restricted Working Space, Add	83.19	
23 31 13	13-0989	LF 30" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	334.84	171.75
		For Seal Class B, Add	42.94	
		For Seal Class A, Add	91.60	
		For Work In Restricted Working Space, Add	85.88	
23 31 13	13-0990	LF 30" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	345.29	177.11
		For Seal Class B, Add	44.28	
		For Seal Class A, Add	94.46	
		For Work In Restricted Working Space, Add	88.56	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-0991	LF	30" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	355.74	182.49
		For Seal Class B, Add	45.62		
		For Seal Class A, Add	97.32		
		For Work In Restricted Working Space, Add	91.24		
23 31 13 13-0992	LF	30" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	366.21	187.85
		For Seal Class B, Add	46.96		
		For Seal Class A, Add	100.19		
		For Work In Restricted Working Space, Add	93.93		
23 31 13 13-0993	LF	30" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	376.66	193.21
		For Seal Class B, Add	48.30		
		For Seal Class A, Add	103.05		
		For Work In Restricted Working Space, Add	96.61		
23 31 13 13-0994	LF	30" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	387.14	198.59
		For Seal Class B, Add	49.65		
		For Seal Class A, Add	105.91		
		For Work In Restricted Working Space, Add	99.29		
23 31 13 13-0995	LF	30" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	397.60	203.95
		For Seal Class B, Add	50.99		
		For Seal Class A, Add	108.77		
		For Work In Restricted Working Space, Add	101.98		
23 31 13 13-0996	LF	30" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	408.06	209.33
		For Seal Class B, Add	52.33		
		For Seal Class A, Add	111.64		
		For Work In Restricted Working Space, Add	104.66		
23 31 13 13-0997	LF	32" x 32", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	334.84	171.75
		For Seal Class B, Add	42.94		
		For Seal Class A, Add	91.60		
		For Work In Restricted Working Space, Add	85.88		
23 31 13 13-0998	LF	32" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	345.29	177.11
		For Seal Class B, Add	44.28		
		For Seal Class A, Add	94.46		
		For Work In Restricted Working Space, Add	88.56		
23 31 13 13-0999	LF	32" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	355.74	182.49
		For Seal Class B, Add	45.62		
		For Seal Class A, Add	97.32		
		For Work In Restricted Working Space, Add	91.24		
23 31 13 13-1000	LF	32" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	366.21	187.85
		For Seal Class B, Add	46.96		
		For Seal Class A, Add	100.19		
		For Work In Restricted Working Space, Add	93.93		
23 31 13 13-1001	LF	32" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	376.66	193.21
		For Seal Class B, Add	48.30		
		For Seal Class A, Add	103.05		
		For Work In Restricted Working Space, Add	96.61		
23 31 13 13-1002	LF	32" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	387.14	198.59
		For Seal Class B, Add	49.65		
		For Seal Class A, Add	105.91		
		For Work In Restricted Working Space, Add	99.29		
23 31 13 13-1003	LF	32" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	397.60	203.95
		For Seal Class B, Add	50.99		
		For Seal Class A, Add	108.77		
		For Work In Restricted Working Space, Add	101.98		
23 31 13 13-1004	LF	32" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	408.06	209.33
		For Seal Class B, Add	52.33		
		For Seal Class A, Add	111.64		
		For Work In Restricted Working Space, Add	104.66		
23 31 13 13-1005	LF	32" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	418.52	214.69
		For Seal Class B, Add	53.67		
		For Seal Class A, Add	114.50		
		For Work In Restricted Working Space, Add	107.35		
23 31 13 13-1006	LF	34" x 34", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	355.74	182.49
		For Seal Class B, Add	45.62		
		For Seal Class A, Add	97.32		
		For Work In Restricted Working Space, Add	91.24		
23 31 13 13-1007	LF	34" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	366.21	187.85
		For Seal Class B, Add	46.96		
		For Seal Class A, Add	100.19		
		For Work In Restricted Working Space, Add	93.93		
23 31 13 13-1008	LF	34" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	376.66	193.21
		For Seal Class B, Add	48.30		
		For Seal Class A, Add	103.05		
		For Work In Restricted Working Space, Add	96.61		
23 31 13 13-1009	LF	34" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	387.14	198.59
		For Seal Class B, Add	49.65		
		For Seal Class A, Add	105.91		
		For Work In Restricted Working Space, Add	99.29		
23 31 13 13-1010	LF	34" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	397.60	203.95
		For Seal Class B, Add	50.99		
		For Seal Class A, Add	108.77		
		For Work In Restricted Working Space, Add	101.98		
23 31 13 13-1011	LF	34" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	408.06	209.33
		For Seal Class B, Add	52.33		
		For Seal Class A, Add	111.64		
		For Work In Restricted Working Space, Add	104.66		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-1012	LF	34" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	418.52	214.69
		For Seal Class B, Add	53.67	
		For Seal Class A, Add	114.50	
		For Work In Restricted Working Space, Add	107.35	
23 31 13 13-1013	LF	34" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	428.98	220.06
		For Seal Class B, Add	55.01	
		For Seal Class A, Add	117.36	
		For Work In Restricted Working Space, Add	110.03	
23 31 13 13-1014	LF	36" x 36", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	376.66	193.21
		For Seal Class B, Add	48.30	
		For Seal Class A, Add	103.05	
		For Work In Restricted Working Space, Add	96.61	
23 31 13 13-1015	LF	36" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	387.14	198.59
		For Seal Class B, Add	49.65	
		For Seal Class A, Add	105.91	
		For Work In Restricted Working Space, Add	99.29	
23 31 13 13-1016	LF	36" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	397.60	203.95
		For Seal Class B, Add	50.99	
		For Seal Class A, Add	108.77	
		For Work In Restricted Working Space, Add	101.98	
23 31 13 13-1017	LF	36" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	408.06	209.33
		For Seal Class B, Add	52.33	
		For Seal Class A, Add	111.64	
		For Work In Restricted Working Space, Add	104.66	
23 31 13 13-1018	LF	36" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	418.52	214.69
		For Seal Class B, Add	53.67	
		For Seal Class A, Add	114.50	
		For Work In Restricted Working Space, Add	107.35	
23 31 13 13-1019	LF	36" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	428.98	220.06
		For Seal Class B, Add	55.01	
		For Seal Class A, Add	117.36	
		For Work In Restricted Working Space, Add	110.03	
23 31 13 13-1020	LF	36" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	439.45	225.43
		For Seal Class B, Add	56.36	
		For Seal Class A, Add	120.22	
		For Work In Restricted Working Space, Add	112.71	
23 31 13 13-1021	LF	38" x 38", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	397.60	203.95
		For Seal Class B, Add	50.99	
		For Seal Class A, Add	108.77	
		For Work In Restricted Working Space, Add	101.98	
23 31 13 13-1022	LF	38" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	408.06	209.33
		For Seal Class B, Add	52.33	
		For Seal Class A, Add	111.64	
		For Work In Restricted Working Space, Add	104.66	
23 31 13 13-1023	LF	38" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	418.52	214.69
		For Seal Class B, Add	53.67	
		For Seal Class A, Add	114.50	
		For Work In Restricted Working Space, Add	107.35	
23 31 13 13-1024	LF	38" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	428.98	220.06
		For Seal Class B, Add	55.01	
		For Seal Class A, Add	117.36	
		For Work In Restricted Working Space, Add	110.03	
23 31 13 13-1025	LF	38" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	439.45	225.43
		For Seal Class B, Add	56.36	
		For Seal Class A, Add	120.22	
		For Work In Restricted Working Space, Add	112.71	
23 31 13 13-1026	LF	38" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	449.91	230.79
		For Seal Class B, Add	57.70	
		For Seal Class A, Add	123.09	
		For Work In Restricted Working Space, Add	115.40	
23 31 13 13-1027	LF	38" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	460.38	236.16
		For Seal Class B, Add	59.04	
		For Seal Class A, Add	125.95	
		For Work In Restricted Working Space, Add	118.08	
23 31 13 13-1028	LF	40" x 40", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	418.52	214.69
		For Seal Class B, Add	53.67	
		For Seal Class A, Add	114.50	
		For Work In Restricted Working Space, Add	107.35	
23 31 13 13-1029	LF	40" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	428.98	220.06
		For Seal Class B, Add	55.01	
		For Seal Class A, Add	117.36	
		For Work In Restricted Working Space, Add	110.03	
23 31 13 13-1030	LF	40" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	439.45	225.43
		For Seal Class B, Add	56.36	
		For Seal Class A, Add	120.22	
		For Work In Restricted Working Space, Add	112.71	
23 31 13 13-1031	LF	40" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	449.91	230.79
		For Seal Class B, Add	57.70	
		For Seal Class A, Add	123.09	
		For Work In Restricted Working Space, Add	115.40	
23 31 13 13-1032	LF	40" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	460.38	236.16
		For Seal Class B, Add	59.04	
		For Seal Class A, Add	125.95	
		For Work In Restricted Working Space, Add	118.08	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Ducts and Casings			23 31

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-1033	LF	40" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	470.83	241.53	
		For Seal Class B, Add	60.38		
		For Seal Class A, Add	128.81		
		For Work In Restricted Working Space, Add	120.76		
23 31 13 13-1034	LF	40" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	481.29	246.89	
		For Seal Class B, Add	61.72		
		For Seal Class A, Add	131.68		
		For Work In Restricted Working Space, Add	123.45		
23 31 13 13-1035	LF	40" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	491.77	252.25	
		For Seal Class B, Add	63.06		
		For Seal Class A, Add	134.54		
		For Work In Restricted Working Space, Add	126.13		
23 31 13 13-1036	LF	40" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	502.23	257.63	
		For Seal Class B, Add	64.41		
		For Seal Class A, Add	137.40		
		For Work In Restricted Working Space, Add	128.81		
23 31 13 13-1037	LF	42" x 42", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	439.45	225.43	
		For Seal Class B, Add	56.36		
		For Seal Class A, Add	120.22		
		For Work In Restricted Working Space, Add	112.71		
23 31 13 13-1038	LF	42" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	449.91	230.79	
		For Seal Class B, Add	57.70		
		For Seal Class A, Add	123.09		
		For Work In Restricted Working Space, Add	115.40		
23 31 13 13-1039	LF	42" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	460.38	236.16	
		For Seal Class B, Add	59.04		
		For Seal Class A, Add	125.95		
		For Work In Restricted Working Space, Add	118.08		
23 31 13 13-1040	LF	42" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	470.83	241.53	
		For Seal Class B, Add	60.38		
		For Seal Class A, Add	128.81		
		For Work In Restricted Working Space, Add	120.76		
23 31 13 13-1041	LF	42" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	481.29	246.89	
		For Seal Class B, Add	61.72		
		For Seal Class A, Add	131.68		
		For Work In Restricted Working Space, Add	123.45		
23 31 13 13-1042	LF	42" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	491.77	252.25	
		For Seal Class B, Add	63.06		
		For Seal Class A, Add	134.54		
		For Work In Restricted Working Space, Add	126.13		
23 31 13 13-1043	LF	42" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	502.23	257.63	
		For Seal Class B, Add	64.41		
		For Seal Class A, Add	137.40		
		For Work In Restricted Working Space, Add	128.81		
23 31 13 13-1044	LF	42" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	512.69	262.99	
		For Seal Class B, Add	65.75		
		For Seal Class A, Add	140.26		
		For Work In Restricted Working Space, Add	131.50		
23 31 13 13-1045	LF	44" x 44", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	460.38	236.16	
		For Seal Class B, Add	59.04		
		For Seal Class A, Add	125.95		
		For Work In Restricted Working Space, Add	118.08		
23 31 13 13-1046	LF	44" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	470.83	241.53	
		For Seal Class B, Add	60.38		
		For Seal Class A, Add	128.81		
		For Work In Restricted Working Space, Add	120.76		
23 31 13 13-1047	LF	44" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	481.29	246.89	
		For Seal Class B, Add	61.72		
		For Seal Class A, Add	131.68		
		For Work In Restricted Working Space, Add	123.45		
23 31 13 13-1048	LF	44" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	491.77	252.25	
		For Seal Class B, Add	63.06		
		For Seal Class A, Add	134.54		
		For Work In Restricted Working Space, Add	126.13		
23 31 13 13-1049	LF	44" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	502.23	257.63	
		For Seal Class B, Add	64.41		
		For Seal Class A, Add	137.40		
		For Work In Restricted Working Space, Add	128.81		
23 31 13 13-1050	LF	44" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	512.69	262.99	
		For Seal Class B, Add	65.75		
		For Seal Class A, Add	140.26		
		For Work In Restricted Working Space, Add	131.50		
23 31 13 13-1051	LF	44" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	523.15	268.36	
		For Seal Class B, Add	67.09		
		For Seal Class A, Add	143.13		
		For Work In Restricted Working Space, Add	134.18		
23 31 13 13-1052	LF	46" x 46", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	481.29	246.89	
		For Seal Class B, Add	61.72		
		For Seal Class A, Add	131.68		
		For Work In Restricted Working Space, Add	123.45		
23 31 13 13-1053	LF	46" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	491.77	252.25	
		For Seal Class B, Add	63.06		
		For Seal Class A, Add	134.54		
		For Work In Restricted Working Space, Add	126.13		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-1054	LF 46" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	502.23	257.63
		For Seal Class B, Add	64.41	
		For Seal Class A, Add	137.40	
		For Work In Restricted Working Space, Add	128.81	
23 31 13	13-1055	LF 46" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	512.69	262.99
		For Seal Class B, Add	65.75	
		For Seal Class A, Add	140.26	
		For Work In Restricted Working Space, Add	131.50	
23 31 13	13-1056	LF 46" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	523.15	268.36
		For Seal Class B, Add	67.09	
		For Seal Class A, Add	143.13	
		For Work In Restricted Working Space, Add	134.18	
23 31 13	13-1057	LF 46" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	542.55	279.10
		For Seal Class B, Add	69.77	
		For Seal Class A, Add	148.85	
		For Work In Restricted Working Space, Add	139.55	
23 31 13	13-1058	LF 46" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	553.03	284.46
		For Seal Class B, Add	71.12	
		For Seal Class A, Add	151.71	
		For Work In Restricted Working Space, Add	142.23	
23 31 13	13-1059	LF 48" x 48", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	502.23	257.63
		For Seal Class B, Add	64.41	
		For Seal Class A, Add	137.40	
		For Work In Restricted Working Space, Add	128.81	
23 31 13	13-1060	LF 48" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	512.69	262.99
		For Seal Class B, Add	65.75	
		For Seal Class A, Add	140.26	
		For Work In Restricted Working Space, Add	131.50	
23 31 13	13-1061	LF 48" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	523.15	268.36
		For Seal Class B, Add	67.09	
		For Seal Class A, Add	143.13	
		For Work In Restricted Working Space, Add	134.18	
23 31 13	13-1062	LF 48" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	533.60	273.74
		For Seal Class B, Add	68.43	
		For Seal Class A, Add	145.99	
		For Work In Restricted Working Space, Add	136.86	
23 31 13	13-1063	LF 48" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	544.09	279.10
		For Seal Class B, Add	69.77	
		For Seal Class A, Add	148.85	
		For Work In Restricted Working Space, Add	139.55	
23 31 13	13-1064	LF 48" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	554.54	284.46
		For Seal Class B, Add	71.12	
		For Seal Class A, Add	151.71	
		For Work In Restricted Working Space, Add	142.23	
23 31 13	13-1065	LF 48" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	565.00	289.83
		For Seal Class B, Add	72.46	
		For Seal Class A, Add	154.58	
		For Work In Restricted Working Space, Add	144.92	
23 31 13	13-1066	LF 50" x 50", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	523.15	268.36
		For Seal Class B, Add	67.09	
		For Seal Class A, Add	143.13	
		For Work In Restricted Working Space, Add	134.18	
23 31 13	13-1067	LF 50" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	533.60	273.74
		For Seal Class B, Add	68.43	
		For Seal Class A, Add	145.99	
		For Work In Restricted Working Space, Add	136.86	
23 31 13	13-1068	LF 50" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	544.09	279.10
		For Seal Class B, Add	69.77	
		For Seal Class A, Add	148.85	
		For Work In Restricted Working Space, Add	139.55	
23 31 13	13-1069	LF 50" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	554.54	284.46
		For Seal Class B, Add	71.12	
		For Seal Class A, Add	151.71	
		For Work In Restricted Working Space, Add	142.23	
23 31 13	13-1070	LF 50" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	565.00	289.83
		For Seal Class B, Add	72.46	
		For Seal Class A, Add	154.58	
		For Work In Restricted Working Space, Add	144.92	
23 31 13	13-1071	LF 50" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	575.46	295.20
		For Seal Class B, Add	73.80	
		For Seal Class A, Add	157.44	
		For Work In Restricted Working Space, Add	147.60	
23 31 13	13-1072	LF 52" x 52", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	544.09	279.10
		For Seal Class B, Add	69.77	
		For Seal Class A, Add	148.85	
		For Work In Restricted Working Space, Add	139.55	
23 31 13	13-1073	LF 52" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	554.54	284.46
		For Seal Class B, Add	71.12	
		For Seal Class A, Add	151.71	
		For Work In Restricted Working Space, Add	142.23	
23 31 13	13-1074	LF 52" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	565.00	289.83
		For Seal Class B, Add	72.46	
		For Seal Class A, Add	154.58	
		For Work In Restricted Working Space, Add	144.92	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-1075	LF	52" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	575.46	295.20
		For Seal Class B, Add	73.80		
		For Seal Class A, Add	157.44		
		For Work In Restricted Working Space, Add	147.60		
23 31 13 13-1076	LF	52" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	585.93	300.56
		For Seal Class B, Add	75.14		
		For Seal Class A, Add	160.30		
		For Work In Restricted Working Space, Add	150.29		
23 31 13 13-1077	LF	54" x 54", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	585.00	289.83
		For Seal Class B, Add	72.46		
		For Seal Class A, Add	154.58		
		For Work In Restricted Working Space, Add	144.92		
23 31 13 13-1078	LF	54" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	575.46	295.20
		For Seal Class B, Add	73.80		
		For Seal Class A, Add	157.44		
		For Work In Restricted Working Space, Add	147.60		
23 31 13 13-1079	LF	54" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	585.93	300.56
		For Seal Class B, Add	75.14		
		For Seal Class A, Add	160.30		
		For Work In Restricted Working Space, Add	150.29		
23 31 13 13-1080	LF	54" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	596.41	305.93
		For Seal Class B, Add	76.48		
		For Seal Class A, Add	163.16		
		For Work In Restricted Working Space, Add	152.97		
23 31 13 13-1081	LF	54" x 62", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	606.86	311.30
		For Seal Class B, Add	77.82		
		For Seal Class A, Add	166.03		
		For Work In Restricted Working Space, Add	155.65		
23 31 13 13-1082	LF	54" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	617.31	316.66
		For Seal Class B, Add	79.17		
		For Seal Class A, Add	168.89		
		For Work In Restricted Working Space, Add	158.33		
23 31 13 13-1083	LF	56" x 56", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	585.93	300.56
		For Seal Class B, Add	75.14		
		For Seal Class A, Add	160.30		
		For Work In Restricted Working Space, Add	150.29		
23 31 13 13-1084	LF	56" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	596.41	305.93
		For Seal Class B, Add	76.48		
		For Seal Class A, Add	163.16		
		For Work In Restricted Working Space, Add	152.97		
23 31 13 13-1085	LF	56" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	606.86	311.30
		For Seal Class B, Add	77.82		
		For Seal Class A, Add	166.03		
		For Work In Restricted Working Space, Add	155.65		
23 31 13 13-1086	LF	56" x 62", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	617.31	316.66
		For Seal Class B, Add	79.17		
		For Seal Class A, Add	168.89		
		For Work In Restricted Working Space, Add	158.33		
23 31 13 13-1087	LF	56" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	627.77	322.03
		For Seal Class B, Add	80.51		
		For Seal Class A, Add	171.75		
		For Work In Restricted Working Space, Add	161.02		
23 31 13 13-1088	LF	58" x 58", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	606.86	311.30
		For Seal Class B, Add	77.82		
		For Seal Class A, Add	166.03		
		For Work In Restricted Working Space, Add	155.65		
23 31 13 13-1089	LF	58" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	617.31	316.66
		For Seal Class B, Add	79.17		
		For Seal Class A, Add	168.89		
		For Work In Restricted Working Space, Add	158.33		
23 31 13 13-1090	LF	58" x 62", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	627.77	322.03
		For Seal Class B, Add	80.51		
		For Seal Class A, Add	171.75		
		For Work In Restricted Working Space, Add	161.02		
23 31 13 13-1091	LF	58" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	638.24	327.40
		For Seal Class B, Add	81.85		
		For Seal Class A, Add	174.61		
		For Work In Restricted Working Space, Add	163.70		
23 31 13 13-1092	LF	58" x 66", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	648.71	332.77
		For Seal Class B, Add	83.19		
		For Seal Class A, Add	177.48		
		For Work In Restricted Working Space, Add	166.38		
23 31 13 13-1093	LF	60" x 60", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	627.77	322.03
		For Seal Class B, Add	80.51		
		For Seal Class A, Add	171.75		
		For Work In Restricted Working Space, Add	161.02		
23 31 13 13-1094	LF	60" x 62", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	638.24	327.40
		For Seal Class B, Add	81.85		
		For Seal Class A, Add	174.61		
		For Work In Restricted Working Space, Add	163.70		
23 31 13 13-1095	LF	60" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	.....	648.71	332.77
		For Seal Class B, Add	83.19		
		For Seal Class A, Add	177.48		
		For Work In Restricted Working Space, Add	166.38		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13	13-1096	LF 60" x 66", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	659.18	338.14
		For Seal Class B, Add	84.53	
		For Seal Class A, Add	180.34	
		For Work In Restricted Working Space, Add	169.07	
23 31 13	13-1097	LF 60" x 68", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	669.64	343.50
		For Seal Class B, Add	85.88	
		For Seal Class A, Add	183.20	
		For Work In Restricted Working Space, Add	171.75	
23 31 13	13-1098	LF 62" x 62", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	648.71	332.77
		For Seal Class B, Add	83.19	
		For Seal Class A, Add	177.48	
		For Work In Restricted Working Space, Add	166.38	
23 31 13	13-1099	LF 62" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	659.18	338.14
		For Seal Class B, Add	84.53	
		For Seal Class A, Add	180.34	
		For Work In Restricted Working Space, Add	169.07	
23 31 13	13-1100	LF 62" x 66", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	669.64	343.50
		For Seal Class B, Add	85.88	
		For Seal Class A, Add	183.20	
		For Work In Restricted Working Space, Add	171.75	
23 31 13	13-1101	LF 62" x 68", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	680.09	348.87
		For Seal Class B, Add	87.22	
		For Seal Class A, Add	186.06	
		For Work In Restricted Working Space, Add	174.44	
23 31 13	13-1102	LF 62" x 70", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	690.55	354.24
		For Seal Class B, Add	88.56	
		For Seal Class A, Add	188.92	
		For Work In Restricted Working Space, Add	177.12	
23 31 13	13-1103	LF 64" x 64", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	669.64	343.50
		For Seal Class B, Add	85.88	
		For Seal Class A, Add	183.20	
		For Work In Restricted Working Space, Add	171.75	
23 31 13	13-1104	LF 64" x 66", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	680.09	348.87
		For Seal Class B, Add	87.22	
		For Seal Class A, Add	186.06	
		For Work In Restricted Working Space, Add	174.44	
23 31 13	13-1105	LF 64" x 68", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	690.55	354.24
		For Seal Class B, Add	88.56	
		For Seal Class A, Add	188.92	
		For Work In Restricted Working Space, Add	177.12	
23 31 13	13-1106	LF 64" x 70", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	701.02	359.60
		For Seal Class B, Add	89.90	
		For Seal Class A, Add	191.79	
		For Work In Restricted Working Space, Add	179.80	
23 31 13	13-1107	LF 66" x 66", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	690.55	354.24
		For Seal Class B, Add	88.56	
		For Seal Class A, Add	188.92	
		For Work In Restricted Working Space, Add	177.12	
23 31 13	13-1108	LF 66" x 68", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	701.02	359.60
		For Seal Class B, Add	89.90	
		For Seal Class A, Add	191.79	
		For Work In Restricted Working Space, Add	179.80	
23 31 13	13-1109	LF 66" x 70", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	711.49	364.97
		For Seal Class B, Add	91.24	
		For Seal Class A, Add	194.65	
		For Work In Restricted Working Space, Add	182.49	
23 31 13	13-1110	LF 66" x 72", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	721.95	370.34
		For Seal Class B, Add	92.58	
		For Seal Class A, Add	197.51	
		For Work In Restricted Working Space, Add	185.17	
23 31 13	13-1111	LF 68" x 68", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	711.49	364.97
		For Seal Class B, Add	91.24	
		For Seal Class A, Add	194.65	
		For Work In Restricted Working Space, Add	182.49	
23 31 13	13-1112	LF 68" x 70", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	721.95	370.34
		For Seal Class B, Add	92.58	
		For Seal Class A, Add	197.51	
		For Work In Restricted Working Space, Add	185.17	
23 31 13	13-1113	LF 68" x 72", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	732.41	375.70
		For Seal Class B, Add	93.93	
		For Seal Class A, Add	200.38	
		For Work In Restricted Working Space, Add	187.85	
23 31 13	13-1114	LF 68" x 74", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	742.86	381.07
		For Seal Class B, Add	95.27	
		For Seal Class A, Add	203.24	
		For Work In Restricted Working Space, Add	190.54	
23 31 13	13-1115	LF 70" x 70", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	732.41	375.70
		For Seal Class B, Add	93.93	
		For Seal Class A, Add	200.38	
		For Work In Restricted Working Space, Add	187.85	
23 31 13	13-1116	LF 70" x 72", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	742.86	381.07
		For Seal Class B, Add	95.27	
		For Seal Class A, Add	203.24	
		For Work In Restricted Working Space, Add	190.54	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR			TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST
23 31 13 13-1117	LF	70" x 74", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	753.35	386.45
		For Seal Class B, Add	96.61	
		For Seal Class A, Add	206.10	
		For Work In Restricted Working Space, Add	193.22	
23 31 13 13-1118	LF	70" x 76", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	763.80	391.81
		For Seal Class B, Add	97.95	
		For Seal Class A, Add	208.96	
		For Work In Restricted Working Space, Add	195.90	
23 31 13 13-1119	LF	70" x 78", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	774.26	397.18
		For Seal Class B, Add	99.29	
		For Seal Class A, Add	211.82	
		For Work In Restricted Working Space, Add	198.59	
23 31 13 13-1120	LF	70" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	784.72	402.54
		For Seal Class B, Add	100.64	
		For Seal Class A, Add	214.69	
		For Work In Restricted Working Space, Add	201.27	
23 31 13 13-1121	LF	70" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	795.19	407.91
		For Seal Class B, Add	101.98	
		For Seal Class A, Add	217.56	
		For Work In Restricted Working Space, Add	203.96	
23 31 13 13-1122	LF	70" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	805.67	413.28
		For Seal Class B, Add	103.32	
		For Seal Class A, Add	220.42	
		For Work In Restricted Working Space, Add	206.64	
23 31 13 13-1123	LF	70" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	816.12	418.64
		For Seal Class B, Add	104.66	
		For Seal Class A, Add	223.28	
		For Work In Restricted Working Space, Add	209.32	
23 31 13 13-1124	LF	72" x 72", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	753.35	386.45
		For Seal Class B, Add	96.61	
		For Seal Class A, Add	206.10	
		For Work In Restricted Working Space, Add	193.22	
23 31 13 13-1125	LF	72" x 74", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	763.80	391.81
		For Seal Class B, Add	97.95	
		For Seal Class A, Add	208.96	
		For Work In Restricted Working Space, Add	195.90	
23 31 13 13-1126	LF	72" x 76", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	774.26	397.18
		For Seal Class B, Add	99.29	
		For Seal Class A, Add	211.82	
		For Work In Restricted Working Space, Add	198.59	
23 31 13 13-1127	LF	72" x 78", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	784.72	402.54
		For Seal Class B, Add	100.64	
		For Seal Class A, Add	214.69	
		For Work In Restricted Working Space, Add	201.27	
23 31 13 13-1128	LF	72" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	795.19	407.91
		For Seal Class B, Add	101.98	
		For Seal Class A, Add	217.56	
		For Work In Restricted Working Space, Add	203.96	
23 31 13 13-1129	LF	72" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	805.67	413.28
		For Seal Class B, Add	103.32	
		For Seal Class A, Add	220.42	
		For Work In Restricted Working Space, Add	206.64	
23 31 13 13-1130	LF	72" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	816.12	418.64
		For Seal Class B, Add	104.66	
		For Seal Class A, Add	223.28	
		For Work In Restricted Working Space, Add	209.32	
23 31 13 13-1131	LF	72" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	826.57	424.00
		For Seal Class B, Add	106.00	
		For Seal Class A, Add	226.14	
		For Work In Restricted Working Space, Add	212.00	
23 31 13 13-1132	LF	74" x 74", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	774.26	397.18
		For Seal Class B, Add	99.29	
		For Seal Class A, Add	211.82	
		For Work In Restricted Working Space, Add	198.59	
23 31 13 13-1133	LF	74" x 76", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	784.72	402.54
		For Seal Class B, Add	100.64	
		For Seal Class A, Add	214.69	
		For Work In Restricted Working Space, Add	201.27	
23 31 13 13-1134	LF	74" x 78", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	795.19	407.91
		For Seal Class B, Add	101.98	
		For Seal Class A, Add	217.56	
		For Work In Restricted Working Space, Add	203.96	
23 31 13 13-1135	LF	74" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	805.67	413.28
		For Seal Class B, Add	103.32	
		For Seal Class A, Add	220.42	
		For Work In Restricted Working Space, Add	206.64	
23 31 13 13-1136	LF	74" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	816.12	418.64
		For Seal Class B, Add	104.66	
		For Seal Class A, Add	223.28	
		For Work In Restricted Working Space, Add	209.32	
23 31 13 13-1137	LF	74" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	826.57	424.00
		For Seal Class B, Add	106.00	
		For Seal Class A, Add	226.14	
		For Work In Restricted Working Space, Add	212.00	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 13-1138	LF	74" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	837.03	429.38
		For Seal Class B, Add	107.34	
		For Seal Class A, Add	229.00	
		For Work In Restricted Working Space, Add	214.69	
23 31 13 13-1139	LF	76" x 76", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	795.19	407.91
		For Seal Class B, Add	101.98	
		For Seal Class A, Add	217.56	
		For Work In Restricted Working Space, Add	203.96	
23 31 13 13-1140	LF	76" x 78", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	805.67	413.28
		For Seal Class B, Add	103.32	
		For Seal Class A, Add	220.42	
		For Work In Restricted Working Space, Add	206.64	
23 31 13 13-1141	LF	76" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	816.12	418.64
		For Seal Class B, Add	104.66	
		For Seal Class A, Add	223.28	
		For Work In Restricted Working Space, Add	209.32	
23 31 13 13-1142	LF	76" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	826.57	424.00
		For Seal Class B, Add	106.00	
		For Seal Class A, Add	226.14	
		For Work In Restricted Working Space, Add	212.00	
23 31 13 13-1143	LF	76" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	837.03	429.38
		For Seal Class B, Add	107.34	
		For Seal Class A, Add	229.00	
		For Work In Restricted Working Space, Add	214.69	
23 31 13 13-1144	LF	76" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	847.49	434.74
		For Seal Class B, Add	108.69	
		For Seal Class A, Add	231.86	
		For Work In Restricted Working Space, Add	217.37	
23 31 13 13-1145	LF	78" x 78", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	816.12	418.64
		For Seal Class B, Add	104.66	
		For Seal Class A, Add	223.28	
		For Work In Restricted Working Space, Add	209.32	
23 31 13 13-1146	LF	78" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	826.57	424.00
		For Seal Class B, Add	106.00	
		For Seal Class A, Add	226.14	
		For Work In Restricted Working Space, Add	212.00	
23 31 13 13-1147	LF	78" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	837.03	429.38
		For Seal Class B, Add	107.34	
		For Seal Class A, Add	229.00	
		For Work In Restricted Working Space, Add	214.69	
23 31 13 13-1148	LF	78" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	847.49	434.74
		For Seal Class B, Add	108.69	
		For Seal Class A, Add	231.86	
		For Work In Restricted Working Space, Add	217.37	
23 31 13 13-1149	LF	78" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	857.97	440.10
		For Seal Class B, Add	110.03	
		For Seal Class A, Add	234.73	
		For Work In Restricted Working Space, Add	220.06	
23 31 13 13-1150	LF	80" x 80", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	837.03	429.38
		For Seal Class B, Add	107.34	
		For Seal Class A, Add	229.00	
		For Work In Restricted Working Space, Add	214.69	
23 31 13 13-1151	LF	80" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	847.49	434.74
		For Seal Class B, Add	108.69	
		For Seal Class A, Add	231.86	
		For Work In Restricted Working Space, Add	217.37	
23 31 13 13-1152	LF	80" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	857.97	440.10
		For Seal Class B, Add	110.03	
		For Seal Class A, Add	234.73	
		For Work In Restricted Working Space, Add	220.06	
23 31 13 13-1153	LF	80" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	877.38	450.85
		For Seal Class B, Add	112.71	
		For Seal Class A, Add	240.45	
		For Work In Restricted Working Space, Add	225.42	
23 31 13 13-1154	LF	82" x 82", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	857.97	440.10
		For Seal Class B, Add	110.03	
		For Seal Class A, Add	234.73	
		For Work In Restricted Working Space, Add	220.06	
23 31 13 13-1155	LF	82" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	868.44	445.49
		For Seal Class B, Add	111.37	
		For Seal Class A, Add	237.59	
		For Work In Restricted Working Space, Add	222.74	
23 31 13 13-1156	LF	82" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	878.89	450.85
		For Seal Class B, Add	112.71	
		For Seal Class A, Add	240.45	
		For Work In Restricted Working Space, Add	225.42	
23 31 13 13-1157	LF	84" x 84", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	878.89	450.85
		For Seal Class B, Add	112.71	
		For Seal Class A, Add	240.45	
		For Work In Restricted Working Space, Add	225.42	
23 31 13 13-1158	LF	84" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork	889.35	456.21
		For Seal Class B, Add	114.05	
		For Seal Class A, Add	243.32	
		For Work In Restricted Working Space, Add	228.11	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 13-1159	LF	86" x 86", 18 Gauge, Seal Class C, Galvanized Steel Sheet Metal Ductwork For Seal Class B, Add For Seal Class A, Add For Work In Restricted Working Space, Add	899.81 115.40 246.18 230.79	461.58
23 31 13 16 Round and Flat-Oval Spiral Ducts (23 31 13)				
23 31 13 16-0001		Low Pressure Round And Flat-Oval Duct (23 31 13 16) Note: 7" diameter round = 4" x 11.85" flat oval. 8" diameter round = 4" x 15" flat oval. 10" diameter round = 4" x 25.99" or 6" x 15.42" or 8" x 11.14" flat oval. 12" diameter round = 6" x 23.28" or 8" x 15.85" flat oval. 14" diameter round = 6" x 32.70" or 8" x 22.14" or 10" x 17.85 or 12" x 15.14" flat oval. 16" diameter round = 6" x 43.70" or 8" x 29.99" or 10" x 24.14" or 12" x 19.85" or 14" x 17.14" flat oval. 18" diameter round = 6" x 59.41" or 8" x 39.42" or 10" x 30.42" or 12" x 24.57" or 14" x 21.85" or 16" x 19.14" flat oval. 20" diameter round = 8" x 51.98" or 10" x 38.27" or 12" x 30.85" or 14" x 26.57" or 16" x 23.85" or 18" x 21.14" flat oval. Includes sealing the joints by tape, mastic, or spray on sealer.		
23 31 13 16-0002		Galvanized Sheet Metal Round And Flat-Oval Ducts (23 31 13 16-0001) Note: Includes straps and supports.		
23 31 13 16-0003	LF	4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct For Seal Class B, Add For Seal Class A, Add For Up To 20', Add For >20' To 50', Add For >200' To 500', Deduct For >500', Deduct For 28 Gauge, Deduct For 24 Gauge, Add For 22 Gauge, Add For 20 Gauge, Add For 18 Gauge, Add For 16 Gauge, Add For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add For Work In Restricted Working Space, Add For Elevated Installation >10' To 15', Add For Elevated Installation >15' To 20', Add For Elevated Installation >20' To 25', Add For Elevated Installation >25' To 30', Add For Elevated Installation >30' To 35', Add For Elevated Installation >35' To 40', Add For Elevated Installation >40', Add	7.44 0.80 2.13 0.64 0.25 -0.16 -0.27 -0.29 0.29 0.58 0.88 1.17 1.43 1.57 1.60 0.53 1.06 1.33 1.86 2.13 2.66 2.93	2.60
23 31 13 16-0004	LF	5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct For Seal Class B, Add For Seal Class A, Add For Up To 20', Add For >20' To 50', Add For >200' To 500', Deduct For >500', Deduct For 28 Gauge, Deduct For 24 Gauge, Add For 22 Gauge, Add For 20 Gauge, Add For 18 Gauge, Add For 16 Gauge, Add For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add For Work In Restricted Working Space, Add For Elevated Installation >10' To 15', Add For Elevated Installation >15' To 20', Add For Elevated Installation >20' To 25', Add For Elevated Installation >25' To 30', Add For Elevated Installation >30' To 35', Add For Elevated Installation >35' To 40', Add For Elevated Installation >40', Add	8.59 0.89 2.36 0.80 0.32 -0.20 -0.34 -0.37 0.37 0.74 1.11 1.47 1.81 1.98 1.77 0.59 1.18 1.48 2.07 2.36 2.96 3.25	2.96
23 31 13 16-0005	LF	6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct For Seal Class B, Add For Seal Class A, Add For Up To 20', Add For >20' To 50', Add For >200' To 500', Deduct For >500', Deduct For 28 Gauge, Deduct For 24 Gauge, Add For 22 Gauge, Add For 20 Gauge, Add For 18 Gauge, Add For 16 Gauge, Add For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add For Work In Restricted Working Space, Add For Elevated Installation >10' To 15', Add For Elevated Installation >15' To 20', Add For Elevated Installation >20' To 25', Add For Elevated Installation >25' To 30', Add For Elevated Installation >30' To 35', Add For Elevated Installation >35' To 40', Add For Elevated Installation >40', Add	9.75 1.00 2.66 0.93 0.37 -0.23 -0.39 -0.43 0.43 0.85 1.28 1.70 2.09 2.29 2.00 0.67 1.33 1.67 2.33 2.66 3.33 3.66	3.54

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0006	LF		7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct	10.94	4.14
			For Seal Class B, Add	1.14	
			For Seal Class A, Add	3.04	
			For Up To 20', Add	1.00	
			For >20' To 50', Add	0.40	
			For >200' To 500', Deduct	-0.25	
			For >500', Deduct	-0.42	
			For 28 Gauge, Deduct	-0.46	
			For 24 Gauge, Add	0.46	
			For 22 Gauge, Add	0.92	
			For 20 Gauge, Add	1.38	
			For 18 Gauge, Add	1.84	
			For 16 Gauge, Add	2.25	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	2.47	
			For Work In Restricted Working Space, Add	2.28	
			For Elevated Installation >10' To 15', Add	0.76	
			For Elevated Installation >15' To 20', Add	1.52	
			For Elevated Installation >20' To 25', Add	1.90	
			For Elevated Installation >25' To 30', Add	2.66	
			For Elevated Installation >30' To 35', Add	3.04	
			For Elevated Installation >35' To 40', Add	3.80	
			For Elevated Installation >40', Add	4.18	
23 31 13 16-0007	LF		8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct	12.45	4.73
			For Seal Class B, Add	1.33	
			For Seal Class A, Add	3.55	
			For Up To 20', Add	1.07	
			For >20' To 50', Add	0.43	
			For >200' To 500', Deduct	-0.27	
			For >500', Deduct	-0.45	
			For 28 Gauge, Deduct	-0.50	
			For 24 Gauge, Add	0.49	
			For 22 Gauge, Add	0.99	
			For 20 Gauge, Add	1.48	
			For 18 Gauge, Add	1.97	
			For 16 Gauge, Add	2.42	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	2.65	
			For Work In Restricted Working Space, Add	2.66	
			For Elevated Installation >10' To 15', Add	0.89	
			For Elevated Installation >15' To 20', Add	1.77	
			For Elevated Installation >20' To 25', Add	2.22	
			For Elevated Installation >25' To 30', Add	3.10	
			For Elevated Installation >30' To 35', Add	3.55	
			For Elevated Installation >35' To 40', Add	4.44	
			For Elevated Installation >40', Add	4.88	
23 31 13 16-0008	LF		10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct	15.85	5.91
			For Seal Class B, Add	1.60	
			For Seal Class A, Add	4.26	
			For Up To 20', Add	1.56	
			For >20' To 50', Add	0.63	
			For >200' To 500', Deduct	-0.39	
			For >500', Deduct	-0.65	
			For 28 Gauge, Deduct	-0.72	
			For 24 Gauge, Add	0.72	
			For 22 Gauge, Add	1.44	
			For 20 Gauge, Add	2.16	
			For 18 Gauge, Add	2.87	
			For 16 Gauge, Add	3.52	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.86	
			For Work In Restricted Working Space, Add	3.19	
			For Elevated Installation >10' To 15', Add	1.06	
			For Elevated Installation >15' To 20', Add	2.13	
			For Elevated Installation >20' To 25', Add	2.66	
			For Elevated Installation >25' To 30', Add	3.72	
			For Elevated Installation >30' To 35', Add	4.26	
			For Elevated Installation >35' To 40', Add	5.32	
			For Elevated Installation >40', Add	5.85	
23 31 13 16-0009	LF		12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct	19.39	7.93
			For Seal Class B, Add	2.00	
			For Seal Class A, Add	5.32	
			For Up To 20', Add	1.83	
			For >20' To 50', Add	0.73	
			For >200' To 500', Deduct	-0.46	
			For >500', Deduct	-0.76	
			For 28 Gauge, Deduct	-0.84	
			For 24 Gauge, Add	0.84	
			For 22 Gauge, Add	1.68	
			For 20 Gauge, Add	2.52	
			For 18 Gauge, Add	3.35	
			For 16 Gauge, Add	4.11	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.51	
			For Work In Restricted Working Space, Add	3.99	
			For Elevated Installation >10' To 15', Add	1.33	
			For Elevated Installation >15' To 20', Add	2.66	
			For Elevated Installation >20' To 25', Add	3.33	
			For Elevated Installation >25' To 30', Add	4.66	
			For Elevated Installation >30' To 35', Add	5.32	
			For Elevated Installation >35' To 40', Add	6.65	
			For Elevated Installation >40', Add	7.32	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
HVAC Ducts and Casings		23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0010	LF		14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	23.56	11.82
			For Seal Class B, Add	2.50	
			For Seal Class A, Add	6.66	
			For Up To 20', Add	2.08	
			For >20' To 50', Add	0.83	
			For >200' To 500', Deduct	-0.52	
			For >500', Deduct	-0.87	
			For 28 Gauge, Deduct	-0.96	
			For 24 Gauge, Add	0.95	
			For 22 Gauge, Add	1.91	
			For 20 Gauge, Add	2.86	
			For 18 Gauge, Add	3.81	
			For 16 Gauge, Add	4.67	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.12	
			For Work In Restricted Working Space, Add	4.99	
			For Elevated Installation >10' To 15', Add	1.66	
			For Elevated Installation >15' To 20', Add	3.33	
			For Elevated Installation >20' To 25', Add	4.16	
			For Elevated Installation >25' To 30', Add	5.82	
			For Elevated Installation >30' To 35', Add	6.66	
			For Elevated Installation >35' To 40', Add	8.32	
			For Elevated Installation >40', Add	9.15	
23 31 13 16-0011	LF		16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	31.69	15.85
			For Seal Class B, Add	3.33	
			For Seal Class A, Add	8.87	
			For Up To 20', Add	2.85	
			For >20' To 50', Add	1.14	
			For >200' To 500', Deduct	-0.71	
			For >500', Deduct	-1.19	
			For 28 Gauge, Deduct	-1.32	
			For 24 Gauge, Add	1.31	
			For 22 Gauge, Add	2.62	
			For 20 Gauge, Add	3.94	
			For 18 Gauge, Add	5.23	
			For 16 Gauge, Add	6.42	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.04	
			For Work In Restricted Working Space, Add	6.65	
			For Elevated Installation >10' To 15', Add	2.22	
			For Elevated Installation >15' To 20', Add	4.44	
			For Elevated Installation >20' To 25', Add	5.55	
			For Elevated Installation >25' To 30', Add	7.76	
			For Elevated Installation >30' To 35', Add	8.87	
			For Elevated Installation >35' To 40', Add	11.09	
			For Elevated Installation >40', Add	12.20	
23 31 13 16-0012	LF		18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	44.98	19.04
			For Up To 20', Add	5.51	
			For >20' To 50', Add	2.20	
			For >200' To 500', Deduct	-1.38	
			For >500', Deduct	-2.30	
			For 28 Gauge, Deduct	-2.54	
			For 24 Gauge, Add	2.54	
			For 22 Gauge, Add	5.06	
			For 20 Gauge, Add	7.61	
			For 18 Gauge, Add	10.10	
			For 16 Gauge, Add	12.40	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	13.59	
			For Work In Restricted Working Space, Add	7.98	
			For Elevated Installation >10' To 15', Add	2.66	
			For Elevated Installation >15' To 20', Add	5.32	
			For Elevated Installation >20' To 25', Add	6.65	
			For Elevated Installation >25' To 30', Add	9.31	
			For Elevated Installation >30' To 35', Add	10.64	
			For Elevated Installation >35' To 40', Add	13.31	
			For Elevated Installation >40', Add	14.64	
23 31 13 16-0013	LF		20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Duct.....	51.27	21.99
			For Up To 20', Add	6.15	
			For >20' To 50', Add	2.46	
			For >200' To 500', Deduct	-1.54	
			For >500', Deduct	-2.56	
			For 28 Gauge, Deduct	-2.84	
			For 24 Gauge, Add	2.83	
			For 22 Gauge, Add	5.65	
			For 20 Gauge, Add	8.49	
			For 18 Gauge, Add	11.28	
			For 16 Gauge, Add	13.84	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	15.18	
			For Work In Restricted Working Space, Add	9.23	
			For Elevated Installation >10' To 15', Add	3.08	
			For Elevated Installation >15' To 20', Add	6.15	
			For Elevated Installation >20' To 25', Add	7.69	
			For Elevated Installation >25' To 30', Add	10.77	
			For Elevated Installation >30' To 35', Add	12.30	
			For Elevated Installation >35' To 40', Add	15.38	
			For Elevated Installation >40', Add	16.92	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 31 13 16-0014 Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbows (23 31 13 16-0001)			
Note: Up to 90 degree.			
23 31 13 16-0015	EA	4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	37.63
		For Seal Class B, Add	4.74
		For Seal Class A, Add	12.63
		For 28 Gauge, Deduct	-0.84
		For 24 Gauge, Add	0.83
		For 22 Gauge, Add	1.67
		For 20 Gauge, Add	2.50
		For 18 Gauge, Add	3.33
		For 16 Gauge, Add	4.08
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.48
		For Work In Restricted Working Space, Add	9.47
		For Elevated Installation >10' To 15', Add	3.16
		For Elevated Installation >15' To 20', Add	6.32
		For Elevated Installation >20' To 25', Add	7.90
		For Elevated Installation >25' To 30', Add	11.05
		For Elevated Installation >30' To 35', Add	12.63
		For Elevated Installation >35' To 40', Add	15.79
		For Elevated Installation >40', Add	17.37
23 31 13 16-0016	EA	5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	43.02
		For Seal Class B, Add	5.46
		For Seal Class A, Add	14.57
		For 28 Gauge, Deduct	-0.91
		For 24 Gauge, Add	0.91
		For 22 Gauge, Add	1.82
		For 20 Gauge, Add	2.73
		For 18 Gauge, Add	3.62
		For 16 Gauge, Add	4.45
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.88
		For Work In Restricted Working Space, Add	10.93
		For Elevated Installation >10' To 15', Add	3.64
		For Elevated Installation >15' To 20', Add	7.29
		For Elevated Installation >20' To 25', Add	9.11
		For Elevated Installation >25' To 30', Add	12.75
		For Elevated Installation >30' To 35', Add	14.57
		For Elevated Installation >35' To 40', Add	18.22
		For Elevated Installation >40', Add	20.04
23 31 13 16-0017	EA	6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	50.46
		For Seal Class B, Add	6.46
		For Seal Class A, Add	17.22
		For 28 Gauge, Deduct	-1.03
		For 24 Gauge, Add	1.02
		For 22 Gauge, Add	2.04
		For 20 Gauge, Add	3.07
		For 18 Gauge, Add	4.08
		For 16 Gauge, Add	5.00
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.48
		For Work In Restricted Working Space, Add	12.92
		For Elevated Installation >10' To 15', Add	4.31
		For Elevated Installation >15' To 20', Add	8.61
		For Elevated Installation >20' To 25', Add	10.76
		For Elevated Installation >25' To 30', Add	15.07
		For Elevated Installation >30' To 35', Add	17.22
		For Elevated Installation >35' To 40', Add	21.53
		For Elevated Installation >40', Add	23.68
23 31 13 16-0018	EA	7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	64.46
		For Seal Class B, Add	8.30
		For Seal Class A, Add	22.14
		For 28 Gauge, Deduct	-1.26
		For 24 Gauge, Add	1.26
		For 22 Gauge, Add	2.51
		For 20 Gauge, Add	3.77
		For 18 Gauge, Add	5.01
		For 16 Gauge, Add	6.15
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.74
		For Work In Restricted Working Space, Add	16.61
		For Elevated Installation >10' To 15', Add	5.54
		For Elevated Installation >15' To 20', Add	11.07
		For Elevated Installation >20' To 25', Add	13.84
		For Elevated Installation >25' To 30', Add	19.37
		For Elevated Installation >30' To 35', Add	22.14
		For Elevated Installation >35' To 40', Add	27.68
		For Elevated Installation >40', Add	30.44



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0019	EA		8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow.....	77.25	33.71
			For Seal Class B, Add	10.11	
			For Seal Class A, Add	26.96	
			For 28 Gauge, Deduct	-1.36	
			For 24 Gauge, Add	1.36	
			For 22 Gauge, Add	2.71	
			For 20 Gauge, Add	4.07	
			For 18 Gauge, Add	5.41	
			For 16 Gauge, Add	6.64	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.28	
			For Work In Restricted Working Space, Add	20.22	
			For Elevated Installation >10' To 15', Add	6.74	
			For Elevated Installation >15' To 20', Add	13.48	
			For Elevated Installation >20' To 25', Add	16.85	
			For Elevated Installation >25' To 30', Add	23.59	
			For Elevated Installation >30' To 35', Add	26.96	
			For Elevated Installation >35' To 40', Add	33.71	
			For Elevated Installation >40', Add	37.08	
23 31 13 16-0020	EA		10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow.....	118.24	52.63
			For Seal Class B, Add	15.79	
			For Seal Class A, Add	42.10	
			For 28 Gauge, Deduct	-1.80	
			For 24 Gauge, Add	1.79	
			For 22 Gauge, Add	3.58	
			For 20 Gauge, Add	5.37	
			For 18 Gauge, Add	7.14	
			For 16 Gauge, Add	8.76	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	9.61	
			For Work In Restricted Working Space, Add	31.58	
			For Elevated Installation >10' To 15', Add	10.53	
			For Elevated Installation >15' To 20', Add	21.05	
			For Elevated Installation >20' To 25', Add	26.32	
			For Elevated Installation >25' To 30', Add	36.84	
			For Elevated Installation >30' To 35', Add	42.10	
			For Elevated Installation >35' To 40', Add	52.63	
			For Elevated Installation >40', Add	57.89	
23 31 13 16-0021	EA		12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow.....	163.06	72.74
			For Seal Class B, Add	21.82	
			For Seal Class A, Add	58.19	
			For 28 Gauge, Deduct	-2.44	
			For 24 Gauge, Add	2.43	
			For 22 Gauge, Add	4.85	
			For 20 Gauge, Add	7.28	
			For 18 Gauge, Add	9.67	
			For 16 Gauge, Add	11.87	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	13.02	
			For Work In Restricted Working Space, Add	43.64	
			For Elevated Installation >10' To 15', Add	14.55	
			For Elevated Installation >15' To 20', Add	29.09	
			For Elevated Installation >20' To 25', Add	36.37	
			For Elevated Installation >25' To 30', Add	50.91	
			For Elevated Installation >30' To 35', Add	58.19	
			For Elevated Installation >35' To 40', Add	72.74	
			For Elevated Installation >40', Add	80.01	
23 31 13 16-0022	EA		14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow.....	199.05	86.04
			For Seal Class B, Add	25.81	
			For Seal Class A, Add	68.84	
			For 28 Gauge, Deduct	-3.73	
			For 24 Gauge, Add	3.72	
			For 22 Gauge, Add	7.43	
			For 20 Gauge, Add	11.16	
			For 18 Gauge, Add	14.83	
			For 16 Gauge, Add	18.20	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	19.95	
			For Work In Restricted Working Space, Add	51.63	
			For Elevated Installation >10' To 15', Add	17.21	
			For Elevated Installation >15' To 20', Add	34.42	
			For Elevated Installation >20' To 25', Add	43.02	
			For Elevated Installation >25' To 30', Add	60.23	
			For Elevated Installation >30' To 35', Add	68.84	
			For Elevated Installation >35' To 40', Add	86.05	
			For Elevated Installation >40', Add	94.65	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0023	EA		16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	227.88	94.61
			For Seal Class B, Add	28.39	
			For Seal Class A, Add	75.70	
			For 28 Gauge, Deduct	-5.35	
			For 24 Gauge, Add	5.33	
			For 22 Gauge, Add	10.65	
			For 20 Gauge, Add	16.00	
			For 18 Gauge, Add	21.25	
			For 16 Gauge, Add	26.08	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	28.59	
			For Work In Restricted Working Space, Add	56.77	
			For Elevated Installation >10' To 15', Add	18.92	
			For Elevated Installation >15' To 20', Add	37.85	
			For Elevated Installation >20' To 25', Add	47.31	
			For Elevated Installation >25' To 30', Add	66.23	
			For Elevated Installation >30' To 35', Add	75.70	
			For Elevated Installation >35' To 40', Add	94.62	
			For Elevated Installation >40', Add	104.08	
23 31 13 16-0024	EA		18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	254.77	98.46
			For Seal Class B, Add	29.54	
			For Seal Class A, Add	78.77	
			For 28 Gauge, Deduct	-8.01	
			For 24 Gauge, Add	7.98	
			For 22 Gauge, Add	15.94	
			For 20 Gauge, Add	23.95	
			For 18 Gauge, Add	31.82	
			For 16 Gauge, Add	39.05	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	42.81	
			For Work In Restricted Working Space, Add	59.08	
			For Elevated Installation >10' To 15', Add	19.69	
			For Elevated Installation >15' To 20', Add	39.38	
			For Elevated Installation >20' To 25', Add	49.23	
			For Elevated Installation >25' To 30', Add	68.92	
			For Elevated Installation >30' To 35', Add	78.77	
			For Elevated Installation >35' To 40', Add	98.46	
			For Elevated Installation >40', Add	108.31	
23 31 13 16-0025	EA		20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Adjustable Elbow	280.55	101.71
			For Seal Class B, Add	30.51	
			For Seal Class A, Add	81.37	
			For 28 Gauge, Deduct	-10.68	
			For 24 Gauge, Add	10.64	
			For 22 Gauge, Add	21.25	
			For 20 Gauge, Add	31.93	
			For 18 Gauge, Add	42.42	
			For 16 Gauge, Add	52.06	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	57.08	
			For Work In Restricted Working Space, Add	61.03	
			For Elevated Installation >10' To 15', Add	20.34	
			For Elevated Installation >15' To 20', Add	40.68	
			For Elevated Installation >20' To 25', Add	50.86	
			For Elevated Installation >25' To 30', Add	71.20	
			For Elevated Installation >30' To 35', Add	81.37	
			For Elevated Installation >35' To 40', Add	101.71	
			For Elevated Installation >40', Add	111.88	
23 31 13 16-0026			Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbows (23 31 13 16-0001)		
23 31 13 16-0027	EA		4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	31.70	10.64
			For Seal Class B, Add	3.99	
			For Seal Class A, Add	10.64	
			For 28 Gauge, Deduct	-0.70	
			For 24 Gauge, Add	0.70	
			For 22 Gauge, Add	1.40	
			For 20 Gauge, Add	2.11	
			For 18 Gauge, Add	2.80	
			For 16 Gauge, Add	3.44	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.77	
			For Work In Restricted Working Space, Add	7.98	
			For Elevated Installation >10' To 15', Add	2.66	
			For Elevated Installation >15' To 20', Add	5.32	
			For Elevated Installation >20' To 25', Add	6.65	
			For Elevated Installation >25' To 30', Add	9.31	
			For Elevated Installation >30' To 35', Add	10.64	
			For Elevated Installation >35' To 40', Add	13.31	
			For Elevated Installation >40', Add	14.64	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0028	EA		5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow.....	36.21	12.19
			For Seal Class B, Add	4.56	
			For Seal Class A, Add	12.16	
			For 28 Gauge, Deduct	-0.80	
			For 24 Gauge, Add	0.80	
			For 22 Gauge, Add	1.60	
			For 20 Gauge, Add	2.40	
			For 18 Gauge, Add	3.19	
			For 16 Gauge, Add	3.92	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.29	
			For Work In Restricted Working Space, Add	9.12	
			For Elevated Installation >10' To 15', Add	3.04	
			For Elevated Installation >15' To 20', Add	6.08	
			For Elevated Installation >20' To 25', Add	7.60	
			For Elevated Installation >25' To 30', Add	10.64	
			For Elevated Installation >30' To 35', Add	12.16	
			For Elevated Installation >35' To 40', Add	15.21	
			For Elevated Installation >40', Add	16.73	
23 31 13 16-0029	EA		6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow.....	42.09	14.19
			For Seal Class B, Add	5.32	
			For Seal Class A, Add	14.19	
			For 28 Gauge, Deduct	-0.92	
			For 24 Gauge, Add	0.91	
			For 22 Gauge, Add	1.82	
			For 20 Gauge, Add	2.74	
			For 18 Gauge, Add	3.64	
			For 16 Gauge, Add	4.46	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.89	
			For Work In Restricted Working Space, Add	10.64	
			For Elevated Installation >10' To 15', Add	3.55	
			For Elevated Installation >15' To 20', Add	7.10	
			For Elevated Installation >20' To 25', Add	8.87	
			For Elevated Installation >25' To 30', Add	12.42	
			For Elevated Installation >30' To 35', Add	14.19	
			For Elevated Installation >35' To 40', Add	17.74	
			For Elevated Installation >40', Add	19.51	
23 31 13 16-0030	EA		7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow.....	49.58	17.03
			For Seal Class B, Add	6.39	
			For Seal Class A, Add	17.03	
			For 28 Gauge, Deduct	-0.97	
			For 24 Gauge, Add	0.97	
			For 22 Gauge, Add	1.93	
			For 20 Gauge, Add	2.90	
			For 18 Gauge, Add	3.85	
			For 16 Gauge, Add	4.73	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.18	
			For Work In Restricted Working Space, Add	12.77	
			For Elevated Installation >10' To 15', Add	4.26	
			For Elevated Installation >15' To 20', Add	8.52	
			For Elevated Installation >20' To 25', Add	10.65	
			For Elevated Installation >25' To 30', Add	14.90	
			For Elevated Installation >30' To 35', Add	17.03	
			For Elevated Installation >35' To 40', Add	21.29	
			For Elevated Installation >40', Add	23.42	
23 31 13 16-0031	EA		8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow.....	61.34	21.29
			For Seal Class B, Add	7.98	
			For Seal Class A, Add	21.29	
			For 28 Gauge, Deduct	-1.12	
			For 24 Gauge, Add	1.12	
			For 22 Gauge, Add	2.24	
			For 20 Gauge, Add	3.36	
			For 18 Gauge, Add	4.47	
			For 16 Gauge, Add	5.48	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.01	
			For Work In Restricted Working Space, Add	15.97	
			For Elevated Installation >10' To 15', Add	5.32	
			For Elevated Installation >15' To 20', Add	10.64	
			For Elevated Installation >20' To 25', Add	13.31	
			For Elevated Installation >25' To 30', Add	18.63	
			For Elevated Installation >30' To 35', Add	21.29	
			For Elevated Installation >35' To 40', Add	26.61	
			For Elevated Installation >40', Add	29.27	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0032 EA 10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	82.58	28.39
For Seal Class B, Add	10.65	
For Seal Class A, Add	28.39	
For 28 Gauge, Deduct	-1.61	
For 24 Gauge, Add	1.60	
For 22 Gauge, Add	3.20	
For 20 Gauge, Add	4.81	
For 18 Gauge, Add	6.39	
For 16 Gauge, Add	7.84	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	8.59	
For Work In Restricted Working Space, Add	21.29	
For Elevated Installation >10' To 15', Add	7.10	
For Elevated Installation >15' To 20', Add	14.19	
For Elevated Installation >20' To 25', Add	17.74	
For Elevated Installation >25' To 30', Add	24.84	
For Elevated Installation >30' To 35', Add	28.39	
For Elevated Installation >35' To 40', Add	35.49	
For Elevated Installation >40', Add	39.03	
23 31 13 16-0033 EA 12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	121.81	42.58
For Seal Class B, Add	15.97	
For Seal Class A, Add	42.58	
For 28 Gauge, Deduct	-2.13	
For 24 Gauge, Add	2.12	
For 22 Gauge, Add	4.23	
For 20 Gauge, Add	6.36	
For 18 Gauge, Add	8.45	
For 16 Gauge, Add	10.37	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	11.37	
For Work In Restricted Working Space, Add	31.94	
For Elevated Installation >10' To 15', Add	10.65	
For Elevated Installation >15' To 20', Add	21.29	
For Elevated Installation >20' To 25', Add	26.61	
For Elevated Installation >25' To 30', Add	37.26	
For Elevated Installation >30' To 35', Add	42.58	
For Elevated Installation >35' To 40', Add	53.23	
For Elevated Installation >40', Add	58.55	
23 31 13 16-0034 EA 14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	164.76	54.40
For Seal Class B, Add	20.40	
For Seal Class A, Add	54.40	
For 28 Gauge, Deduct	-3.98	
For 24 Gauge, Add	3.97	
For 22 Gauge, Add	7.92	
For 20 Gauge, Add	11.90	
For 18 Gauge, Add	15.81	
For 16 Gauge, Add	19.41	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	21.28	
For Work In Restricted Working Space, Add	40.80	
For Elevated Installation >10' To 15', Add	13.60	
For Elevated Installation >15' To 20', Add	27.20	
For Elevated Installation >20' To 25', Add	34.00	
For Elevated Installation >25' To 30', Add	47.60	
For Elevated Installation >30' To 35', Add	54.40	
For Elevated Installation >35' To 40', Add	68.01	
For Elevated Installation >40', Add	74.81	
23 31 13 16-0035 EA 16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	206.66	68.60
For Seal Class B, Add	25.72	
For Seal Class A, Add	68.60	
For 28 Gauge, Deduct	-4.87	
For 24 Gauge, Add	4.85	
For 22 Gauge, Add	9.69	
For 20 Gauge, Add	14.56	
For 18 Gauge, Add	19.34	
For 16 Gauge, Add	23.74	
For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	26.03	
For Work In Restricted Working Space, Add	51.45	
For Elevated Installation >10' To 15', Add	17.15	
For Elevated Installation >15' To 20', Add	34.30	
For Elevated Installation >20' To 25', Add	42.87	
For Elevated Installation >25' To 30', Add	60.02	
For Elevated Installation >30' To 35', Add	68.60	
For Elevated Installation >35' To 40', Add	85.75	
For Elevated Installation >40', Add	94.32	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0036	EA		18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	233.23	71.55
			For Seal Class B, Add	26.79	
			For Seal Class A, Add	71.44	
			For 28 Gauge, Deduct	-7.57	
			For 24 Gauge, Add	7.54	
			For 22 Gauge, Add	15.05	
			For 20 Gauge, Add	22.62	
			For 18 Gauge, Add	30.05	
			For 16 Gauge, Add	36.88	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	40.43	
			For Work In Restricted Working Space, Add	53.58	
			For Elevated Installation >10' To 15', Add	17.86	
			For Elevated Installation >15' To 20', Add	35.72	
			For Elevated Installation >20' To 25', Add	44.65	
			For Elevated Installation >25' To 30', Add	62.51	
			For Elevated Installation >30' To 35', Add	71.44	
			For Elevated Installation >35' To 40', Add	89.30	
			For Elevated Installation >40', Add	98.22	
23 31 13 16-0037	EA		20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 90 Degree Elbow	256.17	73.32
			For Seal Class B, Add	27.50	
			For Seal Class A, Add	73.33	
			For 28 Gauge, Deduct	-10.09	
			For 24 Gauge, Add	10.05	
			For 22 Gauge, Add	20.07	
			For 20 Gauge, Add	30.16	
			For 18 Gauge, Add	40.07	
			For 16 Gauge, Add	49.17	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	53.91	
			For Work In Restricted Working Space, Add	55.00	
			For Elevated Installation >10' To 15', Add	18.33	
			For Elevated Installation >15' To 20', Add	36.66	
			For Elevated Installation >20' To 25', Add	45.83	
			For Elevated Installation >25' To 30', Add	64.16	
			For Elevated Installation >30' To 35', Add	73.33	
			For Elevated Installation >35' To 40', Add	91.66	
			For Elevated Installation >40', Add	100.83	
23 31 13 16-0038			Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbows (23 31 13 16-0001)		
23 31 13 16-0039	EA		4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	29.81	10.64
			For Seal Class B, Add	3.99	
			For Seal Class A, Add	10.64	
			For 28 Gauge, Deduct	-0.44	
			For 24 Gauge, Add	0.44	
			For 22 Gauge, Add	0.88	
			For 20 Gauge, Add	1.32	
			For 18 Gauge, Add	1.76	
			For 16 Gauge, Add	2.16	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	2.37	
			For Work In Restricted Working Space, Add	7.98	
			For Elevated Installation >10' To 15', Add	2.66	
			For Elevated Installation >15' To 20', Add	5.32	
			For Elevated Installation >20' To 25', Add	6.65	
			For Elevated Installation >25' To 30', Add	9.31	
			For Elevated Installation >30' To 35', Add	10.64	
			For Elevated Installation >35' To 40', Add	13.31	
			For Elevated Installation >40', Add	14.64	
23 31 13 16-0040	EA		5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	34.52	12.19
			For Seal Class B, Add	4.56	
			For Seal Class A, Add	12.16	
			For 28 Gauge, Deduct	-0.57	
			For 24 Gauge, Add	0.57	
			For 22 Gauge, Add	1.13	
			For 20 Gauge, Add	1.70	
			For 18 Gauge, Add	2.26	
			For 16 Gauge, Add	2.77	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.04	
			For Work In Restricted Working Space, Add	9.12	
			For Elevated Installation >10' To 15', Add	3.04	
			For Elevated Installation >15' To 20', Add	6.08	
			For Elevated Installation >20' To 25', Add	7.60	
			For Elevated Installation >25' To 30', Add	10.64	
			For Elevated Installation >30' To 35', Add	12.16	
			For Elevated Installation >35' To 40', Add	15.21	
			For Elevated Installation >40', Add	16.73	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 31 13 16-0041	EA 6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	39.96	14.19
	For Seal Class B, Add	5.32	
	For Seal Class A, Add	14.19	
	For 28 Gauge, Deduct	-0.62	
	For 24 Gauge, Add	0.62	
	For 22 Gauge, Add	1.23	
	For 20 Gauge, Add	1.85	
	For 18 Gauge, Add	2.46	
	For 16 Gauge, Add	3.02	
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.32	
	For Work In Restricted Working Space, Add	10.64	
	For Elevated Installation >10' To 15', Add	3.55	
	For Elevated Installation >15' To 20', Add	7.10	
	For Elevated Installation >20' To 25', Add	8.87	
	For Elevated Installation >25' To 30', Add	12.42	
	For Elevated Installation >30' To 35', Add	14.19	
	For Elevated Installation >35' To 40', Add	17.74	
	For Elevated Installation >40', Add	19.51	
23 31 13 16-0042	EA 7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	47.78	17.03
	For Seal Class B, Add	6.39	
	For Seal Class A, Add	17.03	
	For 28 Gauge, Deduct	-0.72	
	For 24 Gauge, Add	0.72	
	For 22 Gauge, Add	1.43	
	For 20 Gauge, Add	2.15	
	For 18 Gauge, Add	2.86	
	For 16 Gauge, Add	3.51	
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.85	
	For Work In Restricted Working Space, Add	12.77	
	For Elevated Installation >10' To 15', Add	4.26	
	For Elevated Installation >15' To 20', Add	8.52	
	For Elevated Installation >20' To 25', Add	10.65	
	For Elevated Installation >25' To 30', Add	14.90	
	For Elevated Installation >30' To 35', Add	17.03	
	For Elevated Installation >35' To 40', Add	21.29	
	For Elevated Installation >40', Add	23.42	
23 31 13 16-0043	EA 8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	59.13	21.29
	For Seal Class B, Add	7.98	
	For Seal Class A, Add	21.29	
	For 28 Gauge, Deduct	-0.82	
	For 24 Gauge, Add	0.82	
	For 22 Gauge, Add	1.63	
	For 20 Gauge, Add	2.45	
	For 18 Gauge, Add	3.25	
	For 16 Gauge, Add	3.99	
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.37	
	For Work In Restricted Working Space, Add	15.97	
	For Elevated Installation >10' To 15', Add	5.32	
	For Elevated Installation >15' To 20', Add	10.64	
	For Elevated Installation >20' To 25', Add	13.31	
	For Elevated Installation >25' To 30', Add	18.63	
	For Elevated Installation >30' To 35', Add	21.29	
	For Elevated Installation >35' To 40', Add	26.61	
	For Elevated Installation >40', Add	29.27	
23 31 13 16-0044	EA 10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	79.99	28.39
	For Seal Class B, Add	10.65	
	For Seal Class A, Add	28.39	
	For 28 Gauge, Deduct	-1.25	
	For 24 Gauge, Add	1.24	
	For 22 Gauge, Add	2.49	
	For 20 Gauge, Add	3.73	
	For 18 Gauge, Add	4.96	
	For 16 Gauge, Add	6.09	
	For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.67	
	For Work In Restricted Working Space, Add	21.29	
	For Elevated Installation >10' To 15', Add	7.10	
	For Elevated Installation >15' To 20', Add	14.19	
	For Elevated Installation >20' To 25', Add	17.74	
	For Elevated Installation >25' To 30', Add	24.84	
	For Elevated Installation >30' To 35', Add	28.39	
	For Elevated Installation >35' To 40', Add	35.49	
	For Elevated Installation >40', Add	39.03	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0045	EA	12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	.....	118.06	42.58
		For Seal Class B, Add		15.97	
		For Seal Class A, Add		42.58	
		For 28 Gauge, Deduct		-1.61	
		For 24 Gauge, Add		1.60	
		For 22 Gauge, Add		3.20	
		For 20 Gauge, Add		4.81	
		For 18 Gauge, Add		6.39	
		For 16 Gauge, Add		7.84	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add		8.59	
		For Work In Restricted Working Space, Add		31.94	
		For Elevated Installation >10' To 15', Add		10.65	
		For Elevated Installation >15' To 20', Add		21.29	
		For Elevated Installation >20' To 25', Add		26.61	
		For Elevated Installation >25' To 30', Add		37.25	
		For Elevated Installation >30' To 35', Add		42.58	
		For Elevated Installation >35' To 40', Add		53.23	
		For Elevated Installation >40', Add		58.55	
23 31 13 16-0046	EA	14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	.....	156.10	54.40
		For Seal Class B, Add		20.40	
		For Seal Class A, Add		54.40	
		For 28 Gauge, Deduct		-2.78	
		For 24 Gauge, Add		2.77	
		For 22 Gauge, Add		5.53	
		For 20 Gauge, Add		8.32	
		For 18 Gauge, Add		11.05	
		For 16 Gauge, Add		13.56	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add		14.87	
		For Work In Restricted Working Space, Add		40.80	
		For Elevated Installation >10' To 15', Add		13.60	
		For Elevated Installation >15' To 20', Add		27.20	
		For Elevated Installation >20' To 25', Add		34.00	
		For Elevated Installation >25' To 30', Add		47.60	
		For Elevated Installation >30' To 35', Add		54.40	
		For Elevated Installation >35' To 40', Add		68.01	
		For Elevated Installation >40', Add		74.81	
23 31 13 16-0047	EA	16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	.....	204.43	68.60
		For Seal Class B, Add		25.72	
		For Seal Class A, Add		68.60	
		For 28 Gauge, Deduct		-4.56	
		For 24 Gauge, Add		4.55	
		For 22 Gauge, Add		9.07	
		For 20 Gauge, Add		13.64	
		For 18 Gauge, Add		18.12	
		For 16 Gauge, Add		22.23	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add		24.38	
		For Work In Restricted Working Space, Add		51.45	
		For Elevated Installation >10' To 15', Add		17.15	
		For Elevated Installation >15' To 20', Add		34.30	
		For Elevated Installation >20' To 25', Add		42.87	
		For Elevated Installation >25' To 30', Add		60.02	
		For Elevated Installation >30' To 35', Add		68.60	
		For Elevated Installation >35' To 40', Add		85.75	
		For Elevated Installation >40', Add		94.32	
23 31 13 16-0048	EA	18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	.....	218.41	71.55
		For Seal Class B, Add		26.79	
		For Seal Class A, Add		71.44	
		For 28 Gauge, Deduct		-5.52	
		For 24 Gauge, Add		5.50	
		For 22 Gauge, Add		10.97	
		For 20 Gauge, Add		16.49	
		For 18 Gauge, Add		21.90	
		For 16 Gauge, Add		26.88	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add		29.47	
		For Work In Restricted Working Space, Add		53.58	
		For Elevated Installation >10' To 15', Add		17.86	
		For Elevated Installation >15' To 20', Add		35.72	
		For Elevated Installation >20' To 25', Add		44.65	
		For Elevated Installation >25' To 30', Add		62.51	
		For Elevated Installation >30' To 35', Add		71.44	
		For Elevated Installation >35' To 40', Add		89.30	
		For Elevated Installation >40', Add		98.22	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0049	EA		20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval 45 Degree Elbow	234.33	73.32
			For Seal Class B, Add	27.50	
			For Seal Class A, Add	73.33	
			For 28 Gauge, Deduct	-7.06	
			For 24 Gauge, Add	7.04	
			For 22 Gauge, Add	14.05	
			For 20 Gauge, Add	21.12	
			For 18 Gauge, Add	28.06	
			For 16 Gauge, Add	34.43	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	37.75	
			For Work In Restricted Working Space, Add	55.00	
			For Elevated Installation >10' To 15', Add	18.33	
			For Elevated Installation >15' To 20', Add	36.66	
			For Elevated Installation >20' To 25', Add	45.83	
			For Elevated Installation >25' To 30', Add	64.16	
			For Elevated Installation >30' To 35', Add	73.33	
			For Elevated Installation >35' To 40', Add	91.66	
			For Elevated Installation >40', Add	100.83	
23 31 13 16-0050			Galvanized Sheet Metal Round And Flat-Oval Tees (23 31 13 16-0001)	47.03	15.96
23 31 13 16-0051	EA		4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	5.99	
			For Seal Class B, Add	15.96	
			For Seal Class A, Add	-0.99	
			For 28 Gauge, Deduct	0.98	
			For 24 Gauge, Add	1.96	
			For 22 Gauge, Add	2.95	
			For 20 Gauge, Add	3.92	
			For 18 Gauge, Add	4.81	
			For 16 Gauge, Add	5.27	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	11.97	
			For Work In Restricted Working Space, Add	3.99	
			For Elevated Installation >10' To 15', Add	7.98	
			For Elevated Installation >15' To 20', Add	9.98	
			For Elevated Installation >20' To 25', Add	13.97	
			For Elevated Installation >25' To 30', Add	15.96	
			For Elevated Installation >30' To 35', Add	19.96	
			For Elevated Installation >35' To 40', Add	21.95	
23 31 13 16-0052	EA		5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	55.08	18.22
			For Seal Class B, Add	6.84	
			For Seal Class A, Add	18.25	
			For 28 Gauge, Deduct	-1.31	
			For 24 Gauge, Add	1.31	
			For 22 Gauge, Add	2.61	
			For 20 Gauge, Add	3.92	
			For 18 Gauge, Add	5.20	
			For 16 Gauge, Add	6.39	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.00	
			For Work In Restricted Working Space, Add	13.69	
			For Elevated Installation >10' To 15', Add	4.56	
			For Elevated Installation >15' To 20', Add	9.12	
			For Elevated Installation >20' To 25', Add	11.41	
			For Elevated Installation >25' To 30', Add	15.97	
			For Elevated Installation >30' To 35', Add	18.25	
			For Elevated Installation >35' To 40', Add	22.81	
			For Elevated Installation >40', Add	25.09	
23 31 13 16-0053	EA		6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	63.49	21.29
			For Seal Class B, Add	7.98	
			For Seal Class A, Add	21.29	
			For 28 Gauge, Deduct	-1.42	
			For 24 Gauge, Add	1.42	
			For 22 Gauge, Add	2.83	
			For 20 Gauge, Add	4.25	
			For 18 Gauge, Add	5.65	
			For 16 Gauge, Add	6.93	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.60	
			For Work In Restricted Working Space, Add	15.97	
			For Elevated Installation >10' To 15', Add	5.32	
			For Elevated Installation >15' To 20', Add	10.64	
			For Elevated Installation >20' To 25', Add	13.31	
			For Elevated Installation >25' To 30', Add	18.63	
			For Elevated Installation >30' To 35', Add	21.29	
			For Elevated Installation >35' To 40', Add	26.61	
			For Elevated Installation >40', Add	29.27	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0054	EA		7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	75.68	25.55
			For Seal Class B, Add	9.58	
			For Seal Class A, Add	25.54	
			For 28 Gauge, Deduct	-1.64	
			For 24 Gauge, Add	1.63	
			For 22 Gauge, Add	3.26	
			For 20 Gauge, Add	4.89	
			For 18 Gauge, Add	6.50	
			For 16 Gauge, Add	7.98	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	8.75	
			For Work In Restricted Working Space, Add	19.16	
			For Elevated Installation >10' To 15', Add	6.39	
			For Elevated Installation >15' To 20', Add	12.77	
			For Elevated Installation >20' To 25', Add	15.97	
			For Elevated Installation >25' To 30', Add	22.35	
			For Elevated Installation >30' To 35', Add	25.54	
			For Elevated Installation >35' To 40', Add	31.93	
			For Elevated Installation >40', Add	35.12	
23 31 13 16-0055	EA		8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	98.94	31.93
			For Seal Class B, Add	11.98	
			For Seal Class A, Add	31.94	
			For 28 Gauge, Deduct	-2.65	
			For 24 Gauge, Add	2.64	
			For 22 Gauge, Add	5.26	
			For 20 Gauge, Add	7.91	
			For 18 Gauge, Add	10.51	
			For 16 Gauge, Add	12.89	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	14.13	
			For Work In Restricted Working Space, Add	23.95	
			For Elevated Installation >10' To 15', Add	7.98	
			For Elevated Installation >15' To 20', Add	15.97	
			For Elevated Installation >20' To 25', Add	19.96	
			For Elevated Installation >25' To 30', Add	27.94	
			For Elevated Installation >30' To 35', Add	31.94	
			For Elevated Installation >35' To 40', Add	39.92	
			For Elevated Installation >40', Add	43.91	
23 31 13 16-0056	EA		10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	130.82	42.58
			For Seal Class B, Add	15.97	
			For Seal Class A, Add	42.58	
			For 28 Gauge, Deduct	-3.38	
			For 24 Gauge, Add	3.36	
			For 22 Gauge, Add	6.71	
			For 20 Gauge, Add	10.09	
			For 18 Gauge, Add	13.40	
			For 16 Gauge, Add	16.45	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	18.03	
			For Work In Restricted Working Space, Add	31.94	
			For Elevated Installation >10' To 15', Add	10.65	
			For Elevated Installation >15' To 20', Add	21.29	
			For Elevated Installation >20' To 25', Add	26.61	
			For Elevated Installation >25' To 30', Add	37.26	
			For Elevated Installation >30' To 35', Add	42.58	
			For Elevated Installation >35' To 40', Add	53.23	
			For Elevated Installation >40', Add	58.55	
23 31 13 16-0057	EA		12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	184.01	63.87
			For Seal Class B, Add	23.95	
			For Seal Class A, Add	63.86	
			For 28 Gauge, Deduct	-3.38	
			For 24 Gauge, Add	3.36	
			For 22 Gauge, Add	6.71	
			For 20 Gauge, Add	10.09	
			For 18 Gauge, Add	13.40	
			For 16 Gauge, Add	16.45	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	18.03	
			For Work In Restricted Working Space, Add	47.89	
			For Elevated Installation >10' To 15', Add	15.96	
			For Elevated Installation >15' To 20', Add	31.93	
			For Elevated Installation >20' To 25', Add	39.91	
			For Elevated Installation >25' To 30', Add	55.87	
			For Elevated Installation >30' To 35', Add	63.86	
			For Elevated Installation >35' To 40', Add	79.82	
			For Elevated Installation >40', Add	87.80	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0058	EA		14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	250.34	81.37
			For Seal Class B, Add	30.59	
			For Seal Class A, Add	81.57	
			For 28 Gauge, Deduct	-6.43	
			For 24 Gauge, Add	6.41	
			For 22 Gauge, Add	12.79	
			For 20 Gauge, Add	19.22	
			For 18 Gauge, Add	25.53	
			For 16 Gauge, Add	31.33	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	34.35	
			For Work In Restricted Working Space, Add	61.18	
			For Elevated Installation >10' To 15', Add	20.39	
			For Elevated Installation >15' To 20', Add	40.78	
			For Elevated Installation >20' To 25', Add	50.98	
			For Elevated Installation >25' To 30', Add	71.37	
			For Elevated Installation >30' To 35', Add	81.57	
			For Elevated Installation >35' To 40', Add	101.96	
			For Elevated Installation >40', Add	112.16	
23 31 13 16-0059	EA		16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	322.28	103.13
			For Seal Class B, Add	38.57	
			For Seal Class A, Add	102.84	
			For 28 Gauge, Deduct	-9.03	
			For 24 Gauge, Add	8.99	
			For 22 Gauge, Add	17.95	
			For 20 Gauge, Add	26.98	
			For 18 Gauge, Add	35.84	
			For 16 Gauge, Add	43.99	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	48.23	
			For Work In Restricted Working Space, Add	77.13	
			For Elevated Installation >10' To 15', Add	25.71	
			For Elevated Installation >15' To 20', Add	51.42	
			For Elevated Installation >20' To 25', Add	64.28	
			For Elevated Installation >25' To 30', Add	89.99	
			For Elevated Installation >30' To 35', Add	102.84	
			For Elevated Installation >35' To 40', Add	128.56	
			For Elevated Installation >40', Add	141.41	
23 31 13 16-0060	EA		18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	370.43	114.72
			For Seal Class B, Add	43.11	
			For Seal Class A, Add	114.96	
			For 28 Gauge, Deduct	-11.50	
			For 24 Gauge, Add	11.46	
			For 22 Gauge, Add	22.87	
			For 20 Gauge, Add	34.37	
			For 18 Gauge, Add	45.67	
			For 16 Gauge, Add	56.05	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	61.44	
			For Work In Restricted Working Space, Add	86.22	
			For Elevated Installation >10' To 15', Add	28.74	
			For Elevated Installation >15' To 20', Add	57.48	
			For Elevated Installation >20' To 25', Add	71.85	
			For Elevated Installation >25' To 30', Add	100.59	
			For Elevated Installation >30' To 35', Add	114.96	
			For Elevated Installation >35' To 40', Add	143.70	
			For Elevated Installation >40', Add	158.07	
23 31 13 16-0061	EA		20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Tee	388.99	118.86
			For Seal Class B, Add	44.53	
			For Seal Class A, Add	118.74	
			For 28 Gauge, Deduct	-12.76	
			For 24 Gauge, Add	12.71	
			For 22 Gauge, Add	25.38	
			For 20 Gauge, Add	38.14	
			For 18 Gauge, Add	50.67	
			For 16 Gauge, Add	62.19	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	68.18	
			For Work In Restricted Working Space, Add	89.06	
			For Elevated Installation >10' To 15', Add	29.69	
			For Elevated Installation >15' To 20', Add	59.37	
			For Elevated Installation >20' To 25', Add	74.22	
			For Elevated Installation >25' To 30', Add	103.90	
			For Elevated Installation >30' To 35', Add	118.74	
			For Elevated Installation >35' To 40', Add	148.43	
			For Elevated Installation >40', Add	163.27	
23 31 13 16-0062			Galvanized Sheet Metal Round And Flat-Oval Connectors (23 31 13 16-0001)		
23 31 13 16-0063	EA		4" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector	21.31	
			For Seal Class B, Add	2.84	
			For Seal Class A, Add	7.57	
			For Work In Restricted Working Space, Add	5.68	
			For Elevated Installation >10' To 15', Add	1.89	
			For Elevated Installation >15' To 20', Add	3.78	
			For Elevated Installation >20' To 25', Add	4.73	
			For Elevated Installation >25' To 30', Add	6.62	
			For Elevated Installation >30' To 35', Add	7.57	
			For Elevated Installation >35' To 40', Add	9.46	
			For Elevated Installation >40', Add	10.41	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR			TOTAL DIRECT	DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST
23 31 13 16-0064	EA	5" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	22.46	
		For Seal Class B, Add	2.98	
		For Seal Class A, Add	7.96	
		For Work In Restricted Working Space, Add	5.97	
		For Elevated Installation >10' To 15', Add	1.99	
		For Elevated Installation >15' To 20', Add	3.98	
		For Elevated Installation >20' To 25', Add	4.97	
		For Elevated Installation >25' To 30', Add	6.96	
		For Elevated Installation >30' To 35', Add	7.96	
		For Elevated Installation >35' To 40', Add	9.95	
		For Elevated Installation >40', Add	10.94	
23 31 13 16-0065	EA	6" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	24.06	
		For Seal Class B, Add	3.19	
		For Seal Class A, Add	8.52	
		For Work In Restricted Working Space, Add	6.39	
		For Elevated Installation >10' To 15', Add	2.13	
		For Elevated Installation >15' To 20', Add	4.26	
		For Elevated Installation >20' To 25', Add	5.32	
		For Elevated Installation >25' To 30', Add	7.45	
		For Elevated Installation >30' To 35', Add	8.52	
		For Elevated Installation >35' To 40', Add	10.65	
		For Elevated Installation >40', Add	11.71	
23 31 13 16-0066	EA	7" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	25.63	
		For Seal Class B, Add	3.37	
		For Seal Class A, Add	8.99	
		For Work In Restricted Working Space, Add	6.74	
		For Elevated Installation >10' To 15', Add	2.25	
		For Elevated Installation >15' To 20', Add	4.49	
		For Elevated Installation >20' To 25', Add	5.62	
		For Elevated Installation >25' To 30', Add	7.86	
		For Elevated Installation >30' To 35', Add	8.99	
		For Elevated Installation >35' To 40', Add	11.24	
		For Elevated Installation >40', Add	12.36	
23 31 13 16-0067	EA	8" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	27.81	
		For Seal Class B, Add	3.64	
		For Seal Class A, Add	9.70	
		For Work In Restricted Working Space, Add	7.27	
		For Elevated Installation >10' To 15', Add	2.42	
		For Elevated Installation >15' To 20', Add	4.85	
		For Elevated Installation >20' To 25', Add	6.06	
		For Elevated Installation >25' To 30', Add	8.48	
		For Elevated Installation >30' To 35', Add	9.70	
		For Elevated Installation >35' To 40', Add	12.12	
		For Elevated Installation >40', Add	13.33	
23 31 13 16-0068	EA	10" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	32.71	
		For Seal Class B, Add	4.06	
		For Seal Class A, Add	10.84	
		For Work In Restricted Working Space, Add	8.13	
		For Elevated Installation >10' To 15', Add	2.71	
		For Elevated Installation >15' To 20', Add	5.42	
		For Elevated Installation >20' To 25', Add	6.77	
		For Elevated Installation >25' To 30', Add	9.48	
		For Elevated Installation >30' To 35', Add	10.84	
		For Elevated Installation >35' To 40', Add	13.55	
		For Elevated Installation >40', Add	14.90	
23 31 13 16-0069	EA	12" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	44.63	
		For Seal Class B, Add	5.68	
		For Seal Class A, Add	15.14	
		For Work In Restricted Working Space, Add	11.36	
		For Elevated Installation >10' To 15', Add	3.79	
		For Elevated Installation >15' To 20', Add	7.57	
		For Elevated Installation >20' To 25', Add	9.46	
		For Elevated Installation >25' To 30', Add	13.25	
		For Elevated Installation >30' To 35', Add	15.14	
		For Elevated Installation >35' To 40', Add	18.93	
		For Elevated Installation >40', Add	20.82	
23 31 13 16-0070	EA	14" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	50.96	
		For Seal Class B, Add	6.46	
		For Seal Class A, Add	17.23	
		For Work In Restricted Working Space, Add	12.92	
		For Elevated Installation >10' To 15', Add	4.31	
		For Elevated Installation >15' To 20', Add	8.61	
		For Elevated Installation >20' To 25', Add	10.77	
		For Elevated Installation >25' To 30', Add	15.07	
		For Elevated Installation >30' To 35', Add	17.23	
		For Elevated Installation >35' To 40', Add	21.54	
		For Elevated Installation >40', Add	23.69	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0071	EA		16" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	56.04	
			For Seal Class B, Add	7.08	
			For Seal Class A, Add	18.88	
			For Work In Restricted Working Space, Add	14.16	
			For Elevated Installation >10' To 15', Add	4.72	
			For Elevated Installation >15' To 20', Add	9.44	
			For Elevated Installation >20' To 25', Add	11.80	
			For Elevated Installation >25' To 30', Add	16.52	
			For Elevated Installation >30' To 35', Add	18.88	
			For Elevated Installation >35' To 40', Add	23.60	
			For Elevated Installation >40', Add	25.96	
23 31 13 16-0072	EA		18" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	60.97	
			For Seal Class B, Add	7.67	
			For Seal Class A, Add	20.44	
			For Work In Restricted Working Space, Add	15.33	
			For Elevated Installation >10' To 15', Add	5.11	
			For Elevated Installation >15' To 20', Add	10.22	
			For Elevated Installation >20' To 25', Add	12.78	
			For Elevated Installation >25' To 30', Add	17.89	
			For Elevated Installation >30' To 35', Add	20.44	
			For Elevated Installation >35' To 40', Add	25.55	
			For Elevated Installation >40', Add	28.11	
23 31 13 16-0073	EA		20" Diameter, 26 Gauge, Seal Class C, Galvanized Sheet Metal Round And Flat-Oval Connector.....	66.42	
			For Seal Class B, Add	8.36	
			For Seal Class A, Add	22.28	
			For Work In Restricted Working Space, Add	16.71	
			For Elevated Installation >10' To 15', Add	5.57	
			For Elevated Installation >15' To 20', Add	11.14	
			For Elevated Installation >20' To 25', Add	13.93	
			For Elevated Installation >25' To 30', Add	19.50	
			For Elevated Installation >30' To 35', Add	22.28	
			For Elevated Installation >35' To 40', Add	27.86	
			For Elevated Installation >40', Add	30.64	
23 31 13 16-0074			Slip Joint, Galvanized, Spiral Duct And Fittings (23 31 13 16)		
23 31 13 16-0075			Slip Joint, Galvanized, Spiral Duct (23 31 13 16-0074)		
23 31 13 16-0076	LF		4" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	10.09	1.09
			For Seal Class B, Add	0.88	
			For Seal Class A, Add	2.34	
			For Up To 20', Add	1.27	
			For >20' To 50', Add	0.51	
			For >200' To 500', Deduct	-0.32	
			For >500', Deduct	-0.53	
			For 24 Gauge, Add	0.85	
			For 22 Gauge, Add	1.95	
			For 20 Gauge, Add	3.18	
			For 18 Gauge, Add	4.88	
			For 16 Gauge, Add	5.94	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	3.14	
			For Work In Restricted Working Space, Add	1.76	
23 31 13 16-0077	LF		6" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	13.15	2.19
			For Seal Class B, Add	1.05	
			For Seal Class A, Add	2.81	
			For Up To 20', Add	1.84	
			For >20' To 50', Add	0.74	
			For >200' To 500', Deduct	-0.46	
			For >500', Deduct	-0.77	
			For 24 Gauge, Add	1.23	
			For 22 Gauge, Add	2.82	
			For 20 Gauge, Add	4.60	
			For 18 Gauge, Add	7.05	
			For 16 Gauge, Add	8.58	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.54	
			For Work In Restricted Working Space, Add	2.11	
23 31 13 16-0078	LF		8" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	16.78	2.19
			For Seal Class B, Add	1.31	
			For Seal Class A, Add	3.48	
			For Up To 20', Add	2.42	
			For >20' To 50', Add	0.97	
			For >200' To 500', Deduct	-0.61	
			For >500', Deduct	-1.01	
			For 24 Gauge, Add	1.62	
			For 22 Gauge, Add	3.72	
			For 20 Gauge, Add	6.06	
			For 18 Gauge, Add	9.29	
			For 16 Gauge, Add	11.31	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.98	
			For Work In Restricted Working Space, Add	2.61	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 31 13 16-0079	LF	10" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	20.43	2.19
		For Seal Class B, Add	1.57	
		For Seal Class A, Add	4.18	
		For Up To 20', Add	2.99	
		For >20' To 50', Add	1.20	
		For >200' To 500', Deduct	-0.75	
		For >500', Deduct	-1.25	
		For 24 Gauge, Add	1.99	
		For 22 Gauge, Add	4.59	
		For 20 Gauge, Add	7.48	
		For 18 Gauge, Add	11.47	
		For 16 Gauge, Add	13.96	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.38	
		For Work In Restricted Working Space, Add	3.14	
23 31 13 16-0080	LF	12" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	25.37	3.27
		For Seal Class B, Add	1.97	
		For Seal Class A, Add	5.24	
		For Up To 20', Add	3.68	
		For >20' To 50', Add	1.47	
		For >200' To 500', Deduct	-0.92	
		For >500', Deduct	-1.53	
		For 24 Gauge, Add	2.45	
		For 22 Gauge, Add	5.64	
		For 20 Gauge, Add	9.20	
		For 18 Gauge, Add	14.11	
		For 16 Gauge, Add	17.18	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	9.08	
		For Work In Restricted Working Space, Add	3.93	
23 31 13 16-0081	LF	14" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	30.58	3.27
		For Seal Class B, Add	2.46	
		For Seal Class A, Add	6.55	
		For Up To 20', Add	4.26	
		For >20' To 50', Add	1.71	
		For >200' To 500', Deduct	-1.07	
		For >500', Deduct	-1.78	
		For 24 Gauge, Add	2.84	
		For 22 Gauge, Add	6.54	
		For 20 Gauge, Add	10.66	
		For 18 Gauge, Add	16.34	
		For 16 Gauge, Add	19.89	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	10.52	
		For Work In Restricted Working Space, Add	4.91	
23 31 13 16-0082	LF	16" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	42.44	3.27
		For Seal Class B, Add	3.27	
		For Seal Class A, Add	8.72	
		For Up To 20', Add	6.19	
		For >20' To 50', Add	2.48	
		For >200' To 500', Deduct	-1.55	
		For >500', Deduct	-2.58	
		For 24 Gauge, Add	4.13	
		For 22 Gauge, Add	9.49	
		For 20 Gauge, Add	15.48	
		For 18 Gauge, Add	23.74	
		For 16 Gauge, Add	28.90	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	15.27	
		For Work In Restricted Working Space, Add	6.54	
23 31 13 16-0083	LF	18" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	48.30	4.36
		For Seal Class B, Add	3.81	
		For Seal Class A, Add	10.16	
		For Up To 20', Add	6.87	
		For >20' To 50', Add	2.75	
		For >200' To 500', Deduct	-1.72	
		For >500', Deduct	-2.86	
		For 24 Gauge, Add	4.58	
		For 22 Gauge, Add	10.53	
		For 20 Gauge, Add	17.17	
		For 18 Gauge, Add	26.32	
		For 16 Gauge, Add	32.05	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	16.94	
		For Work In Restricted Working Space, Add	7.62	
23 31 13 16-0084	LF	20" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	54.39	4.36
		For Seal Class B, Add	4.33	
		For Seal Class A, Add	11.54	
		For Up To 20', Add	7.66	
		For >20' To 50', Add	3.06	
		For >200' To 500', Deduct	-1.91	
		For >500', Deduct	-3.19	
		For 24 Gauge, Add	5.11	
		For 22 Gauge, Add	11.74	
		For 20 Gauge, Add	19.15	
		For 18 Gauge, Add	29.36	
		For 16 Gauge, Add	35.74	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	18.89	
		For Work In Restricted Working Space, Add	8.66	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0085	LF	22" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	60.72	5.46
		For Seal Class B, Add	4.88	
		For Seal Class A, Add	13.00	
		For Up To 20', Add	8.47	
		For >20' To 50', Add	3.39	
		For >200' To 500', Deduct	-2.12	
		For >500', Deduct	-3.53	
		For 24 Gauge, Add	5.64	
		For 22 Gauge, Add	12.98	
		For 20 Gauge, Add	21.17	
		For 18 Gauge, Add	32.45	
		For 16 Gauge, Add	39.51	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	20.88	
		For Work In Restricted Working Space, Add	9.75	
23 31 13 16-0086	LF	24" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct.....	67.05	6.55
		For Seal Class B, Add	5.46	
		For Seal Class A, Add	14.55	
		For Up To 20', Add	9.20	
		For >20' To 50', Add	3.68	
		For >200' To 500', Deduct	-2.30	
		For >500', Deduct	-3.83	
		For 24 Gauge, Add	6.13	
		For 22 Gauge, Add	14.11	
		For 20 Gauge, Add	23.00	
		For 18 Gauge, Add	35.27	
		For 16 Gauge, Add	42.94	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	22.70	
		For Work In Restricted Working Space, Add	10.91	
23 31 13 16-0087		Slip Joint, Galvanized, Spiral 90 Degree Elbows (23 31 13 16-0074)		
23 31 13 16-0088	EA	4" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow.....	71.97	15.28
		For Seal Class B, Add	8.85	
		For Seal Class A, Add	23.60	
		For 24 Gauge, Add	2.60	
		For 22 Gauge, Add	5.97	
		For 20 Gauge, Add	9.74	
		For 18 Gauge, Add	14.93	
		For 16 Gauge, Add	18.17	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	9.61	
		For Work In Restricted Working Space, Add	17.70	
23 31 13 16-0089	EA	6" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow.....	105.73	21.83
		For Seal Class B, Add	13.10	
		For Seal Class A, Add	34.92	
		For 24 Gauge, Add	3.68	
		For 22 Gauge, Add	8.47	
		For 20 Gauge, Add	13.82	
		For 18 Gauge, Add	21.18	
		For 16 Gauge, Add	25.79	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	13.63	
		For Work In Restricted Working Space, Add	26.19	
23 31 13 16-0090	EA	8" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow.....	150.03	28.38
		For Seal Class B, Add	17.23	
		For Seal Class A, Add	45.96	
		For 24 Gauge, Add	7.03	
		For 22 Gauge, Add	16.16	
		For 20 Gauge, Add	26.36	
		For 18 Gauge, Add	40.41	
		For 16 Gauge, Add	49.20	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	26.00	
		For Work In Restricted Working Space, Add	34.47	
23 31 13 16-0091	EA	10" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow.....	186.89	36.02
		For Seal Class B, Add	21.83	
		For Seal Class A, Add	58.21	
		For 24 Gauge, Add	8.27	
		For 22 Gauge, Add	19.03	
		For 20 Gauge, Add	31.03	
		For 18 Gauge, Add	47.58	
		For 16 Gauge, Add	57.92	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	30.61	
		For Work In Restricted Working Space, Add	43.66	
23 31 13 16-0092	EA	12" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow.....	230.48	45.84
		For Seal Class B, Add	27.29	
		For Seal Class A, Add	72.76	
		For 24 Gauge, Add	9.71	
		For 22 Gauge, Add	22.34	
		For 20 Gauge, Add	36.43	
		For 18 Gauge, Add	55.86	
		For 16 Gauge, Add	68.00	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	35.94	
		For Work In Restricted Working Space, Add	54.57	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0093	EA		14" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	252.51	50.21
			For Seal Class B, Add	29.77	
			For Seal Class A, Add	79.38	
			For 24 Gauge, Add	10.81	
			For 22 Gauge, Add	24.87	
			For 20 Gauge, Add	40.55	
			For 18 Gauge, Add	62.18	
			For 16 Gauge, Add	75.70	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	40.01	
			For Work In Restricted Working Space, Add	59.53	
23 31 13 16-0094	EA		16" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	238.00	58.93
			For Seal Class B, Add	35.21	
			For Seal Class A, Add	93.89	
			For 24 Gauge, Add	12.66	
			For 22 Gauge, Add	29.11	
			For 20 Gauge, Add	47.46	
			For 18 Gauge, Add	72.77	
			For 16 Gauge, Add	88.59	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	46.83	
			For Work In Restricted Working Space, Add	70.42	
23 31 13 16-0095	EA		18" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	363.87	73.13
			For Seal Class B, Add	43.66	
			For Seal Class A, Add	116.42	
			For 24 Gauge, Add	14.56	
			For 22 Gauge, Add	33.50	
			For 20 Gauge, Add	54.62	
			For 18 Gauge, Add	83.74	
			For 16 Gauge, Add	101.95	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	53.89	
			For Work In Restricted Working Space, Add	87.32	
23 31 13 16-0096	EA		20" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	438.04	88.41
			For Seal Class B, Add	52.81	
			For Seal Class A, Add	140.83	
			For 24 Gauge, Add	17.19	
			For 22 Gauge, Add	39.54	
			For 20 Gauge, Add	64.47	
			For 18 Gauge, Add	98.85	
			For 16 Gauge, Add	120.34	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	63.61	
			For Work In Restricted Working Space, Add	105.62	
23 31 13 16-0097	EA		22" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	509.41	102.60
			For Seal Class B, Add	61.78	
			For Seal Class A, Add	164.74	
			For 24 Gauge, Add	19.51	
			For 22 Gauge, Add	44.87	
			For 20 Gauge, Add	73.16	
			For 18 Gauge, Add	112.18	
			For 16 Gauge, Add	136.57	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	72.19	
			For Work In Restricted Working Space, Add	123.56	
23 31 13 16-0098	EA		24" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 90 Degree Elbow	584.83	116.78
			For Seal Class B, Add	69.67	
			For Seal Class A, Add	185.78	
			For 24 Gauge, Add	24.08	
			For 22 Gauge, Add	55.38	
			For 20 Gauge, Add	90.29	
			For 18 Gauge, Add	138.45	
			For 16 Gauge, Add	168.55	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	89.09	
			For Work In Restricted Working Space, Add	139.33	
23 31 13 16-0099			Slip Joint, Galvanized, Spiral Duct 45 Degree Elbows (23 31 13 16-0074)		
23 31 13 16-0100	EA		4" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow	72.58	15.28
			For Seal Class B, Add	8.85	
			For Seal Class A, Add	23.60	
			For 24 Gauge, Add	2.72	
			For 22 Gauge, Add	6.25	
			For 20 Gauge, Add	10.19	
			For 18 Gauge, Add	15.63	
			For 16 Gauge, Add	19.03	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	10.06	
			For Work In Restricted Working Space, Add	17.70	
23 31 13 16-0101	EA		6" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow	102.57	21.83
			For Seal Class B, Add	13.10	
			For Seal Class A, Add	34.92	
			For 24 Gauge, Add	3.05	
			For 22 Gauge, Add	7.02	
			For 20 Gauge, Add	11.45	
			For 18 Gauge, Add	17.55	
			For 16 Gauge, Add	21.36	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	11.29	
			For Work In Restricted Working Space, Add	26.19	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0102	EA		8" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	135.36	28.38
			For Seal Class B, Add	17.23	
			For Seal Class A, Add	45.96	
			For 24 Gauge, Add	4.09	
			For 22 Gauge, Add	9.42	
			For 20 Gauge, Add	15.35	
			For 18 Gauge, Add	23.54	
			For 16 Gauge, Add	28.66	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	15.15	
			For Work In Restricted Working Space, Add	34.47	
23 31 13 16-0103	EA		10" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	171.10	36.02
			For Seal Class B, Add	21.83	
			For Seal Class A, Add	58.21	
			For 24 Gauge, Add	5.12	
			For 22 Gauge, Add	11.77	
			For 20 Gauge, Add	19.19	
			For 18 Gauge, Add	29.42	
			For 16 Gauge, Add	35.81	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	18.93	
			For Work In Restricted Working Space, Add	43.66	
23 31 13 16-0104	EA		12" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	211.64	45.84
			For Seal Class B, Add	27.29	
			For Seal Class A, Add	72.76	
			For 24 Gauge, Add	5.95	
			For 22 Gauge, Add	13.68	
			For 20 Gauge, Add	22.30	
			For 18 Gauge, Add	34.19	
			For 16 Gauge, Add	41.62	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	22.00	
			For Work In Restricted Working Space, Add	54.57	
23 31 13 16-0105	EA		14" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	231.49	50.21
			For Seal Class B, Add	29.77	
			For Seal Class A, Add	79.38	
			For 24 Gauge, Add	6.61	
			For 22 Gauge, Add	15.20	
			For 20 Gauge, Add	24.79	
			For 18 Gauge, Add	38.01	
			For 16 Gauge, Add	46.27	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	24.46	
			For Work In Restricted Working Space, Add	59.53	
23 31 13 16-0106	EA		16" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	288.90	58.93
			For Seal Class B, Add	35.21	
			For Seal Class A, Add	93.89	
			For 24 Gauge, Add	10.84	
			For 22 Gauge, Add	24.92	
			For 20 Gauge, Add	40.64	
			For 18 Gauge, Add	62.31	
			For 16 Gauge, Add	75.85	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	40.09	
			For Work In Restricted Working Space, Add	70.42	
23 31 13 16-0107	EA		18" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	357.42	73.13
			For Seal Class B, Add	43.66	
			For Seal Class A, Add	116.42	
			For 24 Gauge, Add	13.27	
			For 22 Gauge, Add	30.53	
			For 20 Gauge, Add	49.78	
			For 18 Gauge, Add	76.33	
			For 16 Gauge, Add	92.92	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	49.11	
			For Work In Restricted Working Space, Add	87.32	
23 31 13 16-0108	EA		20" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	436.06	88.41
			For Seal Class B, Add	52.81	
			For Seal Class A, Add	140.83	
			For 24 Gauge, Add	16.80	
			For 22 Gauge, Add	38.63	
			For 20 Gauge, Add	62.99	
			For 18 Gauge, Add	96.58	
			For 16 Gauge, Add	117.57	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	62.15	
			For Work In Restricted Working Space, Add	105.62	
23 31 13 16-0109	EA		22" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow.....	487.03	102.60
			For Seal Class B, Add	61.78	
			For Seal Class A, Add	164.74	
			For 24 Gauge, Add	15.03	
			For 22 Gauge, Add	34.58	
			For 20 Gauge, Add	56.38	
			For 18 Gauge, Add	86.45	
			For 16 Gauge, Add	105.24	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	55.63	
			For Work In Restricted Working Space, Add	123.56	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0110	EA		24" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Elbow	576.86	116.78
			For Seal Class B, Add	69.67	
			For Seal Class A, Add	185.78	
			For 24 Gauge, Add	22.48	
			For 22 Gauge, Add	51.71	
			For 20 Gauge, Add	84.32	
			For 18 Gauge, Add	129.28	
			For 16 Gauge, Add	157.39	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	83.19	
			For Work In Restricted Working Space, Add	139.33	
23 31 13 16-0111 Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Laterals (23 31 13 16-0074)					
23 31 13 16-0112	EA		6" x 6" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	144.09	28.38
			For Seal Class B, Add	17.23	
			For Seal Class A, Add	45.96	
			For 24 Gauge, Add	5.84	
			For 22 Gauge, Add	13.43	
			For 20 Gauge, Add	21.90	
			For 18 Gauge, Add	33.58	
			For 16 Gauge, Add	40.88	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	21.61	
			For Work In Restricted Working Space, Add	34.47	
23 31 13 16-0113	EA		8" x 8" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	212.52	45.84
			For Seal Class B, Add	27.29	
			For Seal Class A, Add	72.76	
			For 24 Gauge, Add	6.12	
			For 22 Gauge, Add	14.08	
			For 20 Gauge, Add	22.96	
			For 18 Gauge, Add	35.20	
			For 16 Gauge, Add	42.65	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	22.65	
			For Work In Restricted Working Space, Add	54.57	
23 31 13 16-0114	EA		10" x 10" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	268.33	58.93
			For Seal Class B, Add	35.21	
			For Seal Class A, Add	93.89	
			For 24 Gauge, Add	6.72	
			For 22 Gauge, Add	15.46	
			For 20 Gauge, Add	25.21	
			For 18 Gauge, Add	38.65	
			For 16 Gauge, Add	47.05	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	24.87	
			For Work In Restricted Working Space, Add	70.42	
23 31 13 16-0115	EA		12" x 12" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	326.16	73.13
			For Seal Class B, Add	43.66	
			For Seal Class A, Add	116.42	
			For 24 Gauge, Add	7.02	
			For 22 Gauge, Add	16.15	
			For 20 Gauge, Add	26.33	
			For 18 Gauge, Add	40.38	
			For 16 Gauge, Add	49.15	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	25.98	
			For Work In Restricted Working Space, Add	87.32	
23 31 13 16-0116	EA		14" x 14" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	388.34	88.41
			For Seal Class B, Add	52.81	
			For Seal Class A, Add	140.63	
			For 24 Gauge, Add	7.25	
			For 22 Gauge, Add	16.68	
			For 20 Gauge, Add	27.20	
			For 18 Gauge, Add	41.70	
			For 16 Gauge, Add	50.76	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	26.83	
			For Work In Restricted Working Space, Add	105.62	
23 31 13 16-0117	EA		16" x 16" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	451.30	102.60
			For Seal Class B, Add	61.78	
			For Seal Class A, Add	164.74	
			For 24 Gauge, Add	7.89	
			For 22 Gauge, Add	18.14	
			For 20 Gauge, Add	29.58	
			For 18 Gauge, Add	45.36	
			For 16 Gauge, Add	55.22	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	29.19	
			For Work In Restricted Working Space, Add	123.56	
23 31 13 16-0118	EA		18" x 18" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	505.46	116.78
			For Seal Class B, Add	69.67	
			For Seal Class A, Add	185.78	
			For 24 Gauge, Add	8.20	
			For 22 Gauge, Add	18.87	
			For 20 Gauge, Add	30.77	
			For 18 Gauge, Add	47.17	
			For 16 Gauge, Add	57.43	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	30.35	
			For Work In Restricted Working Space, Add	139.33	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0119	EA		20" x 20" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	574.93	133.16
			For Seal Class B, Add	79.86	
			For Seal Class A, Add	212.96	
			For 24 Gauge, Add	8.50	
			For 22 Gauge, Add	19.56	
			For 20 Gauge, Add	31.89	
			For 18 Gauge, Add	48.90	
			For 16 Gauge, Add	59.53	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	31.46	
			For Work In Restricted Working Space, Add	159.72	
23 31 13 16-0120	EA		22" x 22" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	641.13	147.35
			For Seal Class B, Add	88.49	
			For Seal Class A, Add	235.98	
			For 24 Gauge, Add	10.23	
			For 22 Gauge, Add	23.54	
			For 20 Gauge, Add	38.38	
			For 18 Gauge, Add	58.85	
			For 16 Gauge, Add	71.64	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	37.87	
			For Work In Restricted Working Space, Add	176.99	
23 31 13 16-0121	EA		24" x 24" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	694.87	160.44
			For Seal Class B, Add	96.30	
			For Seal Class A, Add	256.81	
			For 24 Gauge, Add	10.57	
			For 22 Gauge, Add	24.31	
			For 20 Gauge, Add	39.63	
			For 18 Gauge, Add	60.77	
			For 16 Gauge, Add	73.98	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	39.10	
			For Work In Restricted Working Space, Add	192.61	
23 31 13 16-0122	EA		8" x 8" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	223.59	49.44
			For Seal Class B, Add	29.68	
			For Seal Class A, Add	79.15	
			For 24 Gauge, Add	5.14	
			For 22 Gauge, Add	11.83	
			For 20 Gauge, Add	19.29	
			For 18 Gauge, Add	29.58	
			For 16 Gauge, Add	36.01	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	19.03	
			For Work In Restricted Working Space, Add	59.36	
23 31 13 16-0123	EA		10" x 10" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	270.36	59.49
			For Seal Class B, Add	35.68	
			For Seal Class A, Add	95.16	
			For 24 Gauge, Add	6.49	
			For 22 Gauge, Add	14.94	
			For 20 Gauge, Add	24.35	
			For 18 Gauge, Add	37.34	
			For 16 Gauge, Add	45.46	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	24.03	
			For Work In Restricted Working Space, Add	71.37	
23 31 13 16-0124	EA		12" x 12" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	328.47	72.25
			For Seal Class B, Add	43.36	
			For Seal Class A, Add	115.62	
			For 24 Gauge, Add	7.88	
			For 22 Gauge, Add	18.13	
			For 20 Gauge, Add	29.57	
			For 18 Gauge, Add	45.33	
			For 16 Gauge, Add	55.19	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	29.17	
			For Work In Restricted Working Space, Add	86.72	
23 31 13 16-0125	EA		14" x 14" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	391.02	85.89
			For Seal Class B, Add	51.61	
			For Seal Class A, Add	137.63	
			For 24 Gauge, Add	9.39	
			For 22 Gauge, Add	21.59	
			For 20 Gauge, Add	35.21	
			For 18 Gauge, Add	53.98	
			For 16 Gauge, Add	65.72	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	34.74	
			For Work In Restricted Working Space, Add	103.22	
23 31 13 16-0126	EA		16" x 16" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	495.93	110.45
			For Seal Class B, Add	66.23	
			For Seal Class A, Add	176.61	
			For 24 Gauge, Add	10.88	
			For 22 Gauge, Add	25.03	
			For 20 Gauge, Add	40.81	
			For 18 Gauge, Add	62.57	
			For 16 Gauge, Add	76.17	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	40.26	
			For Work In Restricted Working Space, Add	132.46	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0127	EA	18" x 18" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	550.85	122.57
		For Seal Class B, Add	73.48	
		For Seal Class A, Add	195.95	
		For 24 Gauge, Add	12.19	
		For 22 Gauge, Add	28.05	
		For 20 Gauge, Add	45.73	
		For 18 Gauge, Add	70.12	
		For 16 Gauge, Add	85.36	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	45.12	
		For Work In Restricted Working Space, Add	146.96	
23 31 13 16-0128	EA	20" x 20" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	626.26	139.49
		For Seal Class B, Add	83.53	
		For Seal Class A, Add	222.74	
		For 24 Gauge, Add	13.88	
		For 22 Gauge, Add	31.92	
		For 20 Gauge, Add	52.05	
		For 18 Gauge, Add	79.81	
		For 16 Gauge, Add	97.16	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	51.36	
		For Work In Restricted Working Space, Add	167.06	
23 31 13 16-0129	EA	22" x 22" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	671.82	148.77
		For Seal Class B, Add	89.17	
		For Seal Class A, Add	237.79	
		For 24 Gauge, Add	15.47	
		For 22 Gauge, Add	35.58	
		For 20 Gauge, Add	58.01	
		For 18 Gauge, Add	88.95	
		For 16 Gauge, Add	108.29	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	57.24	
		For Work In Restricted Working Space, Add	178.34	
23 31 13 16-0130	EA	24" x 24" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	728.88	161.32
		For Seal Class B, Add	96.76	
		For Seal Class A, Add	258.02	
		For 24 Gauge, Add	16.76	
		For 22 Gauge, Add	38.56	
		For 20 Gauge, Add	62.87	
		For 18 Gauge, Add	96.39	
		For 16 Gauge, Add	117.35	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	62.03	
		For Work In Restricted Working Space, Add	193.52	
23 31 13 16-0131	EA	10" x 10" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	295.81	65.48
		For Seal Class B, Add	39.24	
		For Seal Class A, Add	104.64	
		For 24 Gauge, Add	6.84	
		For 22 Gauge, Add	15.73	
		For 20 Gauge, Add	25.65	
		For 18 Gauge, Add	39.33	
		For 16 Gauge, Add	47.88	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	25.31	
		For Work In Restricted Working Space, Add	78.48	
23 31 13 16-0132	EA	12" x 12" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	359.50	79.68
		For Seal Class B, Add	47.70	
		For Seal Class A, Add	127.21	
		For 24 Gauge, Add	8.30	
		For 22 Gauge, Add	19.08	
		For 20 Gauge, Add	31.11	
		For 18 Gauge, Add	47.70	
		For 16 Gauge, Add	58.07	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	30.70	
		For Work In Restricted Working Space, Add	95.41	
23 31 13 16-0133	EA	14" x 14" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	427.88	94.41
		For Seal Class B, Add	56.77	
		For Seal Class A, Add	151.38	
		For 24 Gauge, Add	9.89	
		For 22 Gauge, Add	22.74	
		For 20 Gauge, Add	37.07	
		For 18 Gauge, Add	56.84	
		For 16 Gauge, Add	69.20	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	36.58	
		For Work In Restricted Working Space, Add	113.54	
23 31 13 16-0134	EA	16" x 16" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	496.68	110.02
		For Seal Class B, Add	65.91	
		For Seal Class A, Add	175.76	
		For 24 Gauge, Add	11.46	
		For 22 Gauge, Add	26.35	
		For 20 Gauge, Add	42.97	
		For 18 Gauge, Add	65.88	
		For 16 Gauge, Add	80.21	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	42.39	
		For Work In Restricted Working Space, Add	131.82	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0135	EA		18" x 18" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	555.82	123.01
			For Seal Class B, Add	73.75	
			For Seal Class A, Add	196.66	
			For 24 Gauge, Add	12.84	
			For 22 Gauge, Add	29.52	
			For 20 Gauge, Add	48.14	
			For 18 Gauge, Add	73.81	
			For 16 Gauge, Add	89.85	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	47.49	
			For Work In Restricted Working Space, Add	147.49	
23 31 13 16-0136	EA		20" x 20" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	632.18	139.92
			For Seal Class B, Add	33.87	
			For Seal Class A, Add	223.66	
			For 24 Gauge, Add	14.61	
			For 22 Gauge, Add	33.60	
			For 20 Gauge, Add	54.78	
			For 18 Gauge, Add	84.00	
			For 16 Gauge, Add	102.26	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	54.05	
			For Work In Restricted Working Space, Add	167.74	
23 31 13 16-0137	EA		22" x 22" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	705.83	156.08
			For Seal Class B, Add	93.66	
			For Seal Class A, Add	249.76	
			For 24 Gauge, Add	16.29	
			For 22 Gauge, Add	37.46	
			For 20 Gauge, Add	61.07	
			For 18 Gauge, Add	93.64	
			For 16 Gauge, Add	114.00	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	60.26	
			For Work In Restricted Working Space, Add	187.32	
23 31 13 16-0138	EA		24" x 24" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct 45 Degree Reducing Lateral.....	765.31	169.39
			For Seal Class B, Add	101.56	
			For Seal Class A, Add	270.83	
			For 24 Gauge, Add	17.65	
			For 22 Gauge, Add	40.59	
			For 20 Gauge, Add	66.17	
			For 18 Gauge, Add	101.46	
			For 16 Gauge, Add	123.52	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	65.29	
			For Work In Restricted Working Space, Add	203.12	
23 31 13 16-0139			Slip Joint, Galvanized, Spiral Duct Reducers (23 31 13 16-0074)		
23 31 13 16-0140	EA		6" x 4", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	97.81	21.83
			For Seal Class B, Add	13.10	
			For Seal Class A, Add	34.92	
			For 24 Gauge, Add	2.10	
			For 22 Gauge, Add	4.83	
			For 20 Gauge, Add	7.88	
			For 18 Gauge, Add	12.08	
			For 16 Gauge, Add	14.70	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.77	
			For Work In Restricted Working Space, Add	26.19	
23 31 13 16-0141	EA		8" x 6", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	126.45	28.38
			For Seal Class B, Add	17.23	
			For Seal Class A, Add	45.96	
			For 24 Gauge, Add	2.31	
			For 22 Gauge, Add	5.32	
			For 20 Gauge, Add	8.67	
			For 18 Gauge, Add	13.29	
			For 16 Gauge, Add	16.18	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	8.55	
			For Work In Restricted Working Space, Add	34.47	
23 31 13 16-0142	EA		10" x 8", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	158.31	36.02
			For Seal Class B, Add	21.83	
			For Seal Class A, Add	58.21	
			For 24 Gauge, Add	2.56	
			For 22 Gauge, Add	5.88	
			For 20 Gauge, Add	9.59	
			For 18 Gauge, Add	14.71	
			For 16 Gauge, Add	17.91	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	9.46	
			For Work In Restricted Working Space, Add	43.66	
23 31 13 16-0143	EA		12" x 10", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer.....	195.94	45.84
			For Seal Class B, Add	27.29	
			For Seal Class A, Add	72.76	
			For 24 Gauge, Add	2.81	
			For 22 Gauge, Add	6.45	
			For 20 Gauge, Add	10.52	
			For 18 Gauge, Add	16.13	
			For 16 Gauge, Add	19.64	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	10.38	
			For Work In Restricted Working Space, Add	54.57	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0144	EA	14" x 12", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer	.....	214.06	50.21
		For Seal Class B, Add	.....	29.77	
		For Seal Class A, Add	.....	79.38	
		For 24 Gauge, Add	.....	3.12	
		For 22 Gauge, Add	.....	7.19	
		For 20 Gauge, Add	.....	11.72	
		For 18 Gauge, Add	.....	17.96	
		For 16 Gauge, Add	.....	21.87	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	.....	11.56	
		For Work In Restricted Working Space, Add	.....	59.53	
23 31 13 16-0145	EA	16" x 14", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer	.....	261.72	58.93
		For Seal Class B, Add	.....	35.21	
		For Seal Class A, Add	.....	93.89	
		For 24 Gauge, Add	.....	5.40	
		For 22 Gauge, Add	.....	12.42	
		For 20 Gauge, Add	.....	20.25	
		For 18 Gauge, Add	.....	31.05	
		For 16 Gauge, Add	.....	37.80	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	.....	19.98	
		For Work In Restricted Working Space, Add	.....	70.42	
23 31 13 16-0146	EA	18" x 16", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer	.....	319.90	73.13
		For Seal Class B, Add	.....	43.66	
		For Seal Class A, Add	.....	116.42	
		For 24 Gauge, Add	.....	5.77	
		For 22 Gauge, Add	.....	13.27	
		For 20 Gauge, Add	.....	21.64	
		For 18 Gauge, Add	.....	33.18	
		For 16 Gauge, Add	.....	40.39	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	.....	21.35	
		For Work In Restricted Working Space, Add	.....	87.32	
23 31 13 16-0147	EA	20" x 18", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer	.....	382.87	88.41
		For Seal Class B, Add	.....	52.81	
		For Seal Class A, Add	.....	140.83	
		For 24 Gauge, Add	.....	6.16	
		For 22 Gauge, Add	.....	14.16	
		For 20 Gauge, Add	.....	23.09	
		For 18 Gauge, Add	.....	35.41	
		For 16 Gauge, Add	.....	43.11	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	.....	22.78	
		For Work In Restricted Working Space, Add	.....	105.62	
23 31 13 16-0148	EA	22" x 20", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer	.....	444.59	102.60
		For Seal Class B, Add	.....	61.78	
		For Seal Class A, Add	.....	164.74	
		For 24 Gauge, Add	.....	6.55	
		For 22 Gauge, Add	.....	15.06	
		For 20 Gauge, Add	.....	24.55	
		For 18 Gauge, Add	.....	37.64	
		For 16 Gauge, Add	.....	45.82	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	.....	24.22	
		For Work In Restricted Working Space, Add	.....	123.56	
23 31 13 16-0149	EA	24" x 22", 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Reducer	.....	498.93	116.78
		For Seal Class B, Add	.....	69.67	
		For Seal Class A, Add	.....	185.78	
		For 24 Gauge, Add	.....	6.90	
		For 22 Gauge, Add	.....	15.87	
		For 20 Gauge, Add	.....	25.87	
		For 18 Gauge, Add	.....	39.66	
		For 16 Gauge, Add	.....	48.29	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	.....	25.52	
		For Work In Restricted Working Space, Add	.....	139.33	
23 31 13 16-0150		Slip Joint, Galvanized, Spiral Duct Couplings (23 31 13 16-0074)			
23 31 13 16-0151	EA	4" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling	.....	63.96	15.28
		For Seal Class B, Add	.....	8.85	
		For Seal Class A, Add	.....	23.60	
		For 24 Gauge, Add	.....	0.99	
		For 22 Gauge, Add	.....	2.29	
		For 20 Gauge, Add	.....	3.73	
		For 18 Gauge, Add	.....	5.72	
		For 16 Gauge, Add	.....	6.96	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	.....	3.68	
		For Work In Restricted Working Space, Add	.....	17.70	
23 31 13 16-0152	EA	6 Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling	.....	92.96	21.83
		For Seal Class B, Add	.....	13.10	
		For Seal Class A, Add	.....	34.92	
		For 24 Gauge, Add	.....	1.13	
		For 22 Gauge, Add	.....	2.60	
		For 20 Gauge, Add	.....	4.24	
		For 18 Gauge, Add	.....	6.50	
		For 16 Gauge, Add	.....	7.91	
		For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	.....	4.18	
		For Work In Restricted Working Space, Add	.....	26.19	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0153	EA		8" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	120.98	28.38
			For Seal Class B, Add	17.23	
			For Seal Class A, Add	45.96	
			For 24 Gauge, Add	1.22	
			For 22 Gauge, Add	2.80	
			For 20 Gauge, Add	4.57	
			For 18 Gauge, Add	7.00	
			For 16 Gauge, Add	8.53	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.51	
			For Work In Restricted Working Space, Add	34.47	
23 31 13 16-0154	EA		10" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	152.05	36.02
			For Seal Class B, Add	21.83	
			For Seal Class A, Add	58.21	
			For 24 Gauge, Add	1.31	
			For 22 Gauge, Add	3.00	
			For 20 Gauge, Add	4.90	
			For 18 Gauge, Add	7.51	
			For 16 Gauge, Add	9.14	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.83	
			For Work In Restricted Working Space, Add	43.66	
23 31 13 16-0155	EA		12" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	188.88	45.84
			For Seal Class B, Add	27.29	
			For Seal Class A, Add	72.76	
			For 24 Gauge, Add	1.39	
			For 22 Gauge, Add	3.21	
			For 20 Gauge, Add	5.23	
			For 18 Gauge, Add	8.02	
			For 16 Gauge, Add	9.76	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.16	
			For Work In Restricted Working Space, Add	54.57	
23 31 13 16-0156	EA		14" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	205.85	50.21
			For Seal Class B, Add	29.77	
			For Seal Class A, Add	79.38	
			For 24 Gauge, Add	1.48	
			For 22 Gauge, Add	3.41	
			For 20 Gauge, Add	5.56	
			For 18 Gauge, Add	8.52	
			For 16 Gauge, Add	10.37	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.48	
			For Work In Restricted Working Space, Add	59.53	
23 31 13 16-0157	EA		16" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	242.92	58.93
			For Seal Class B, Add	35.21	
			For Seal Class A, Add	93.89	
			For 24 Gauge, Add	1.64	
			For 22 Gauge, Add	3.77	
			For 20 Gauge, Add	6.15	
			For 18 Gauge, Add	9.43	
			For 16 Gauge, Add	11.48	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.07	
			For Work In Restricted Working Space, Add	70.42	
23 31 13 16-0158	EA		18" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	299.70	73.13
			For Seal Class B, Add	43.66	
			For Seal Class A, Add	116.42	
			For 24 Gauge, Add	1.73	
			For 22 Gauge, Add	3.98	
			For 20 Gauge, Add	6.49	
			For 18 Gauge, Add	9.95	
			For 16 Gauge, Add	12.11	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.40	
			For Work In Restricted Working Space, Add	87.32	
23 31 13 16-0159	EA		20" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	361.26	88.41
			For Seal Class B, Add	52.81	
			For Seal Class A, Add	140.83	
			For 24 Gauge, Add	1.84	
			For 22 Gauge, Add	4.22	
			For 20 Gauge, Add	6.89	
			For 18 Gauge, Add	10.56	
			For 16 Gauge, Add	12.85	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.79	
			For Work In Restricted Working Space, Add	105.62	
23 31 13 16-0160	EA		22 Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	421.39	206.28
			For Seal Class B, Add	61.78	
			For Seal Class A, Add	164.74	
			For 24 Gauge, Add	1.91	
			For 22 Gauge, Add	4.38	
			For 20 Gauge, Add	7.15	
			For 18 Gauge, Add	10.96	
			For 16 Gauge, Add	13.34	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.05	
			For Work In Restricted Working Space, Add	123.56	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Ducts and Casings			23 31	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0161	EA		24" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Coupling.....	474.50	232.48
			For Seal Class B, Add	69.67	
			For Seal Class A, Add	185.78	
			For 24 Gauge, Add	2.01	
			For 22 Gauge, Add	4.63	
			For 20 Gauge, Add	7.55	
			For 18 Gauge, Add	11.57	
			For 16 Gauge, Add	14.08	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.44	
			For Work In Restricted Working Space, Add	139.33	
23 31 13 16-0162			Slip Joint, Galvanized, Spiral Duct Caps (23 31 13 16-0074)		
23 31 13 16-0163	EA		4" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	35.32	15.28
			For Seal Class B, Add	4.43	
			For Seal Class A, Add	11.80	
			For 24 Gauge, Add	1.16	
			For 22 Gauge, Add	2.68	
			For 20 Gauge, Add	4.37	
			For 18 Gauge, Add	6.69	
			For 16 Gauge, Add	8.15	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.31	
			For Work In Restricted Working Space, Add	8.85	
23 31 13 16-0164	EA		6" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	50.19	21.83
			For Seal Class B, Add	6.55	
			For Seal Class A, Add	17.46	
			For 24 Gauge, Add	1.31	
			For 22 Gauge, Add	3.00	
			For 20 Gauge, Add	4.90	
			For 18 Gauge, Add	7.51	
			For 16 Gauge, Add	9.14	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	4.83	
			For Work In Restricted Working Space, Add	13.10	
23 31 13 16-0165	EA		8" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	64.59	29.47
			For Seal Class B, Add	8.62	
			For Seal Class A, Add	22.98	
			For 24 Gauge, Add	1.43	
			For 22 Gauge, Add	3.29	
			For 20 Gauge, Add	5.36	
			For 18 Gauge, Add	8.22	
			For 16 Gauge, Add	10.01	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.29	
			For Work In Restricted Working Space, Add	17.23	
23 31 13 16-0166	EA		10" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	80.71	37.11
			For Seal Class B, Add	10.92	
			For Seal Class A, Add	29.11	
			For 24 Gauge, Add	1.59	
			For 22 Gauge, Add	3.65	
			For 20 Gauge, Add	5.96	
			For 18 Gauge, Add	9.13	
			For 16 Gauge, Add	11.12	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	5.88	
			For Work In Restricted Working Space, Add	21.83	
23 31 13 16-0167	EA		12" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	99.77	45.84
			For Seal Class B, Add	13.64	
			For Seal Class A, Add	36.38	
			For 24 Gauge, Add	1.76	
			For 22 Gauge, Add	4.06	
			For 20 Gauge, Add	6.62	
			For 18 Gauge, Add	10.14	
			For 16 Gauge, Add	12.35	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	6.53	
			For Work In Restricted Working Space, Add	27.29	
23 31 13 16-0168	EA		14" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	108.92	50.21
			For Seal Class B, Add	14.88	
			For Seal Class A, Add	39.69	
			For 24 Gauge, Add	1.94	
			For 22 Gauge, Add	4.46	
			For 20 Gauge, Add	7.28	
			For 18 Gauge, Add	11.16	
			For 16 Gauge, Add	13.58	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	7.18	
			For Work In Restricted Working Space, Add	29.77	
23 31 13 16-0169	EA		16" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	126.09	57.85
			For Seal Class B, Add	17.23	
			For Seal Class A, Add	45.96	
			For 24 Gauge, Add	2.24	
			For 22 Gauge, Add	5.15	
			For 20 Gauge, Add	8.40	
			For 18 Gauge, Add	12.88	
			For 16 Gauge, Add	15.68	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	8.29	
			For Work In Restricted Working Space, Add	34.47	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 16-0170	EA		18" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	183.28	73.13
			For Seal Class B, Add	21.83	
			For Seal Class A, Add	58.21	
			For 24 Gauge, Add	7.55	
			For 22 Gauge, Add	17.37	
			For 20 Gauge, Add	28.32	
			For 18 Gauge, Add	43.42	
			For 16 Gauge, Add	52.86	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	27.94	
			For Work In Restricted Working Space, Add	43.66	
23 31 13 16-0171	EA		20" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	222.85	90.59
			For Seal Class B, Add	27.29	
			For Seal Class A, Add	72.76	
			For 24 Gauge, Add	8.19	
			For 22 Gauge, Add	18.83	
			For 20 Gauge, Add	30.71	
			For 18 Gauge, Add	47.08	
			For 16 Gauge, Add	57.32	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	30.30	
			For Work In Restricted Working Space, Add	54.57	
23 31 13 16-0172	EA		22" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	242.55	99.32
			For Seal Class B, Add	29.77	
			For Seal Class A, Add	79.38	
			For 24 Gauge, Add	8.82	
			For 22 Gauge, Add	20.29	
			For 20 Gauge, Add	33.08	
			For 18 Gauge, Add	50.73	
			For 16 Gauge, Add	61.75	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	32.64	
			For Work In Restricted Working Space, Add	59.53	
23 31 13 16-0173	EA		24" Diameter, 26 Gauge, Seal Class C, Slip Joint, Galvanized, Spiral Duct Cap	279.59	115.69
			For Seal Class B, Add	34.83	
			For Seal Class A, Add	92.89	
			For 24 Gauge, Add	9.47	
			For 22 Gauge, Add	21.79	
			For 20 Gauge, Add	35.53	
			For 18 Gauge, Add	54.48	
			For 16 Gauge, Add	66.32	
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	35.05	
			For Work In Restricted Working Space, Add	69.67	
23 31 13 19			Metal Duct Fittings (23 31 13)		
23 31 13 19-0001			Sheet Metal Baffles (23 31 13 19)		
23 31 13 19-0002	LF		Sheet Metal Baffles Under Raised Floor	42.15	33.87
			For Work In Restricted Working Space, Add	12.38	
			For Elevated Installation >10' To 15', Add	4.13	
			For Elevated Installation >15' To 20', Add	8.25	
			For Elevated Installation >20' To 25', Add	10.32	
			For Elevated Installation >25' To 30', Add	14.44	
			For Elevated Installation >30' To 35', Add	16.51	
			For Elevated Installation >35' To 40', Add	20.64	
			For Elevated Installation >40', Add	22.70	
23 31 13 19-0003			Duct Register Boots (23 31 13 19)		
23 31 13 19-0004	EA		10" x 2-1/4" x 5" Register Boot, 90 Degree, Galvanized Steel	38.01	14.78
			For Stainless Steel, Add	10.97	
23 31 13 19-0005	EA		10" x 2-1/4" x 6" Register Boot, 90 Degree, Galvanized Steel	38.01	14.78
			For Stainless Steel, Add	10.97	
23 31 13 19-0006	EA		12" x 2-1/4" x 5" Register Boot, 90 Degree, Galvanized Steel	40.55	15.96
			For Stainless Steel, Add	11.21	
23 31 13 19-0007	EA		12" x 2-1/4" x 6" Register Boot, 90 Degree, Galvanized Steel	40.55	15.96
			For Stainless Steel, Add	11.21	
23 31 13 19-0008	EA		12" x 2-1/4" x 7" Register Boot, 90 Degree, Galvanized Steel	42.63	15.96
			For Stainless Steel, Add	13.91	
23 31 13 19-0009	EA		14" x 2-1/4" x 5" Register Boot, 90 Degree, Galvanized Steel	43.96	17.15
			For Stainless Steel, Add	12.56	
23 31 13 19-0010	EA		14" x 2-1/4" x 6" Register Boot, 90 Degree, Galvanized Steel	43.96	17.15
			For Stainless Steel, Add	12.56	
23 31 13 19-0011	EA		14" x 2-1/4" x 7" Register Boot, 90 Degree, Galvanized Steel	45.25	17.15
			For Stainless Steel, Add	14.24	
23 31 13 19-0012	EA		10" x 4" x 6" Register Boot, 90 Degree, Galvanized Steel	44.26	18.33
			For Stainless Steel, Add	9.87	
23 31 13 19-0013	EA		12" x 4" x 6" Register Boot, 90 Degree, Galvanized Steel	46.85	19.52
			For Stainless Steel, Add	10.17	
23 31 13 19-0014	EA		12" x 4" x 7" Register Boot, 90 Degree, Galvanized Steel	52.15	19.52
			For Stainless Steel, Add	17.06	
23 31 13 19-0015	EA		14" x 4" x 6" Register Boot, 90 Degree, Galvanized Steel	49.69	20.69
			For Stainless Steel, Add	10.78	
23 31 13 19-0016	EA		14" x 4" x 7" Register Boot, 90 Degree, Galvanized Steel	54.88	20.69
			For Stainless Steel, Add	17.52	
23 31 13 19-0017	EA		12" x 2-1/4" x 5" Register Boot, Center, Galvanized Steel	39.30	15.96
			For Stainless Steel, Add	9.58	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 13 19-0018	EA		12" x 2-1/4" x 6" Register Boot, Center, Galvanized Steel.....	39.30	15.96
			For Stainless Steel, Add	9.58	
23 31 13 19-0019	EA		14" x 2-1/4" x 6" Register Boot, Center, Galvanized Steel.....	42.51	17.15
			For Stainless Steel, Add	10.67	
23 31 13 19-0020	EA		14" x 2-1/4" x 7" Register Boot, Center, Galvanized Steel.....	43.75	17.15
			For Stainless Steel, Add	12.29	
23 31 13 19-0021	EA		10" x 4" x 6" Register Boot, Center, Galvanized Steel.....	44.43	18.33
			For Stainless Steel, Add	10.09	
23 31 13 19-0022	EA		12" x 4" x 6" Register Boot, Center, Galvanized Steel.....	47.00	19.52
			For Stainless Steel, Add	10.36	
23 31 13 19-0023	EA		12" x 2-1/4" x 6" Register Boot, End, Galvanized Steel.....	40.14	15.96
			For Stainless Steel, Add	10.67	
23 31 13 19-0024	EA		14" x 2-1/4" x 6" Register Boot, End, Galvanized Steel.....	43.02	17.15
			For Stainless Steel, Add	11.34	
23 31 13 19-0025	EA		10" x 2-1/4" x 6" Register Boot, Universal, Galvanized Steel.....	38.01	14.78
			For Stainless Steel, Add	10.97	
23 31 13 19-0026	EA		12" x 2-1/4" x 6" Register Boot, Universal, Galvanized Steel.....	40.55	15.96
			For Stainless Steel, Add	11.21	
23 31 13 19-0027	EA		14" x 2-1/4" x 5" Register Boot, Universal, Galvanized Steel.....	43.96	17.15
			For Stainless Steel, Add	12.56	
23 31 13 19-0028	EA		14" x 2-1/4" x 6" Register Boot, Universal, Galvanized Steel.....	43.96	17.15
			For Stainless Steel, Add	12.56	
23 31 13 19-0029	EA		10" x 4" x 6" Register Boot, Universal, Galvanized Steel.....	44.26	18.33
			For Stainless Steel, Add	9.87	
23 31 13 19-0030	EA		12" x 4" x 6" Register Boot, Universal, Galvanized Steel.....	46.85	19.52
			For Stainless Steel, Add	10.17	
23 31 13 19-0031	EA		12" x 4" x 7" Register Boot, Universal, Galvanized Steel.....	52.15	19.52
			For Stainless Steel, Add	17.06	
23 31 13 19-0032	EA		14" x 4" x 7" Register Boot, Universal, Galvanized Steel.....	54.52	20.69
			For Stainless Steel, Add	17.06	
23 31 13 23 Galvanized Steel Welded Duct (23 31 13)					
Note: All field fabricated duct is assembled from flat duct sheets on site to fit to exact field conditions. Ductwork which is fabricated off site or snap-fitting duct is considered as shop fabricated.					
23 31 13 23-0001			Welded Steel Ductwork (23 31 13 23)		
Note: Ductwork poundage includes all fittings, transitions, collars, straps, support straps, etc.					
23 31 13 23-0002			Galvanized Steel Welded Duct, For Kitchen (23 31 13 23-0001)		
Note: Also includes special exhaust systems and waste.					
23 31 13 23-0003	LB		Galvanized Steel Welded Duct.....	24.16	10.26
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	2.65	
			For Work In Restricted Working Space, Add	6.17	
			For Elevated Installation >10' To 15', Add	2.06	
			For Elevated Installation >15' To 20', Add	4.12	
			For Elevated Installation >20' To 25', Add	5.15	
			For Elevated Installation >25' To 30', Add	7.20	
			For Elevated Installation >30' To 35', Add	8.23	
			For Elevated Installation >35' To 40', Add	10.29	
			For Elevated Installation >40', Add	11.32	
23 31 13 23-0004 Black Steel Ductwork (23 31 13 23-0001)					
23 31 13 23-0005	LB		Black Steel Ductwork.....	21.97	10.59
			For Polyvinyl Chloride (PVC) Coated, Inside And Outside, Add	0.59	
			For Work In Restricted Working Space, Add	6.35	
			For Elevated Installation >10' To 15', Add	2.12	
			For Elevated Installation >15' To 20', Add	4.23	
			For Elevated Installation >20' To 25', Add	5.29	
			For Elevated Installation >25' To 30', Add	7.41	
			For Elevated Installation >30' To 35', Add	8.47	
			For Elevated Installation >35' To 40', Add	10.59	
			For Elevated Installation >40', Add	11.64	
23 31 16 Non-metal Ducts (23 31)					
23 31 16 13 Fibrous-Glass Ducts (23 31 16)					
23 31 16 13-0001			Glass Fiber Duct Board (23 31 16 13)		
Note: Rigid, rectangular boards faced on one side with a fire-resistant foil-scrim-kraft (FSK) vapor retarder and a lightweight fiber glass mat on the airstream surface.					
23 31 16 13-0002	SF		1" Glass Fiber Duct Board (EI-475).....	10.77	2.12
23 31 16 13-0003	SF		1-1/2" Glass Fiber Duct Board (EI-800).....	12.77	2.33
23 31 16 13-0004	SF		2" Glass Fiber Duct Board (EI-800).....	14.83	2.56
23 31 16 16 Thermoset Fiberglass-Reinforced Plastic Ducts (23 31 16)					
23 31 16 16-0001			Fiber Reinforced Round Plastic Duct (23 31 16 16)		
23 31 16 16-0002			Fiber Reinforced Round Plastic Duct (23 31 16 16-0001)		
23 31 16 16-0003	LF		2" Fiber Reinforced Plastic Duct.....	17.76	5.44
23 31 16 16-0004	LF		3" Fiber Reinforced Plastic Duct.....	22.31	6.36
23 31 16 16-0005	LF		4" Fiber Reinforced Plastic Duct.....	30.15	9.34

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 16 16-0006 LF 6" Fiber Reinforced Plastic Duct	40.07	11.80
23 31 16 16-0007 LF 8" Fiber Reinforced Plastic Duct	50.82	14.77
23 31 16 16-0008 LF 10" Fiber Reinforced Plastic Duct	61.29	17.76
23 31 16 16-0009 LF 12" Fiber Reinforced Plastic Duct	68.86	20.73
23 31 16 16-0010 LF 14" Fiber Reinforced Plastic Duct	78.76	22.67
23 31 16 16-0011 LF 16" Fiber Reinforced Plastic Duct	85.20	24.11
23 31 16 16-0012 LF 18" Fiber Reinforced Plastic Duct	106.51	27.09
23 31 16 16-0013 LF 20" Fiber Reinforced Plastic Duct	111.91	29.04
23 31 16 16-0014 LF 24" Fiber Reinforced Plastic Duct	139.00	30.99
23 31 16 16-0015 LF 30" Fiber Reinforced Plastic Duct	159.12	35.91
23 31 16 16-0016 LF 36" Fiber Reinforced Plastic Duct	183.34	43.30
23 31 16 16-0017 LF 42" Fiber Reinforced Plastic Duct	247.09	48.23
23 31 16 16-0018 LF 48" Fiber Reinforced Plastic Duct	276.79	54.17
23 31 16 16-0019 LF 54" Fiber Reinforced Plastic Duct	307.11	62.07
23 31 16 16-0020 LF 60" Fiber Reinforced Plastic Duct	348.15	72.44
23 31 16 16-0021 LF 66" Fiber Reinforced Plastic Duct	371.27	88.65
23 31 16 16-0022 LF 72" Fiber Reinforced Plastic Duct	453.03	108.35

23 31 16 16-0023 Fiber Reinforced Plastic Bell (23 31 16 16-0001)

23 31 16 16-0024 EA 2" Fiber Reinforced Plastic Bell	60.51	22.06
23 31 16 16-0025 EA 3" Fiber Reinforced Plastic Bell	72.82	26.17
23 31 16 16-0026 EA 4" Fiber Reinforced Plastic Bell	84.09	30.78
23 31 16 16-0027 EA 6" Fiber Reinforced Plastic Bell	110.76	41.04
23 31 16 16-0028 EA 8" Fiber Reinforced Plastic Bell	135.38	51.30
23 31 16 16-0029 EA 10" Fiber Reinforced Plastic Bell	157.96	61.56
23 31 16 16-0030 EA 12" Fiber Reinforced Plastic Bell	195.89	76.44
23 31 16 16-0031 EA 14" Fiber Reinforced Plastic Bell	209.23	82.08
23 31 16 16-0032 EA 16" Fiber Reinforced Plastic Bell	226.66	87.73
23 31 16 16-0033 EA 18" Fiber Reinforced Plastic Bell	244.11	94.40
23 31 16 16-0034 EA 20" Fiber Reinforced Plastic Bell	266.67	102.60
23 31 16 16-0035 EA 24" Fiber Reinforced Plastic Bell	307.67	112.87
23 31 16 16-0036 EA 30" Fiber Reinforced Plastic Bell	354.81	123.13
23 31 16 16-0037 EA 36" Fiber Reinforced Plastic Bell	402.00	138.51
23 31 16 16-0038 EA 42" Fiber Reinforced Plastic Bell	449.18	153.91
23 31 16 16-0039 EA 48" Fiber Reinforced Plastic Bell	496.33	169.30
23 31 16 16-0040 EA 54" Fiber Reinforced Plastic Bell	615.28	205.21
23 31 16 16-0041 EA 60" Fiber Reinforced Plastic Bell	738.36	256.51
23 31 16 16-0042 EA 66" Fiber Reinforced Plastic Bell	885.99	307.81
23 31 16 16-0043 EA 72" Fiber Reinforced Plastic Bell	1,013.28	348.85

23 31 16 16-0044 Fiber Reinforced Plastic Flange (23 31 16 16-0001)

23 31 16 16-0045 EA 2" Fiber Reinforced Plastic Flange	93.29	22.06
23 31 16 16-0046 EA 3" Fiber Reinforced Plastic Flange	107.64	26.17
23 31 16 16-0047 EA 4" Fiber Reinforced Plastic Flange	123.02	30.78
23 31 16 16-0048 EA 6" Fiber Reinforced Plastic Flange	159.93	41.04
23 31 16 16-0049 EA 8" Fiber Reinforced Plastic Flange	194.79	51.30
23 31 16 16-0050 EA 10" Fiber Reinforced Plastic Flange	229.66	61.56
23 31 16 16-0051 EA 12" Fiber Reinforced Plastic Flange	271.69	76.44
23 31 16 16-0052 EA 14" Fiber Reinforced Plastic Flange	301.41	82.08
23 31 16 16-0053 EA 16" Fiber Reinforced Plastic Flange	329.09	87.73
23 31 16 16-0054 EA 18" Fiber Reinforced Plastic Flange	350.64	94.40
23 31 16 16-0055 EA 20" Fiber Reinforced Plastic Flange	369.10	102.60
23 31 16 16-0056 EA 24" Fiber Reinforced Plastic Flange	430.59	112.87
23 31 16 16-0057 EA 30" Fiber Reinforced Plastic Flange	473.63	123.13
23 31 16 16-0058 EA 36" Fiber Reinforced Plastic Flange	580.23	138.51
23 31 16 16-0059 EA 42" Fiber Reinforced Plastic Flange	645.85	153.91
23 31 16 16-0060 EA 48" Fiber Reinforced Plastic Flange	731.92	169.30
23 31 16 16-0061 EA 54" Fiber Reinforced Plastic Flange	861.11	205.21
23 31 16 16-0062 EA 60" Fiber Reinforced Plastic Flange	1,031.31	256.51
23 31 16 16-0063 EA 66" Fiber Reinforced Plastic Flange	1,201.47	307.81
23 31 16 16-0064 EA 72" Fiber Reinforced Plastic Flange	1,373.83	348.85

23 31 16 16-0065 Fiber Reinforced Plastic 90 Degree Elbow (23 31 16 16-0001)

23 31 16 16-0066 EA 2" Fiber Reinforced Plastic 90 Degree Elbow	156.25	53.14
23 31 16 16-0067 EA 3" Fiber Reinforced Plastic 90 Degree Elbow	183.74	63.51
23 31 16 16-0068 EA 4" Fiber Reinforced Plastic 90 Degree Elbow	213.27	73.87
23 31 16 16-0069 EA 6" Fiber Reinforced Plastic 90 Degree Elbow	276.84	98.50
23 31 16 16-0070 EA 8" Fiber Reinforced Plastic 90 Degree Elbow	340.42	123.13
23 31 16 16-0071 EA 10" Fiber Reinforced Plastic 90 Degree Elbow	404.00	147.75
23 31 16 16-0072 EA 12" Fiber Reinforced Plastic 90 Degree Elbow	496.73	183.77
23 31 16 16-0073 EA 14" Fiber Reinforced Plastic 90 Degree Elbow	559.84	194.54
23 31 16 16-0074 EA 16" Fiber Reinforced Plastic 90 Degree Elbow	634.86	211.27
23 31 16 16-0075 EA 18" Fiber Reinforced Plastic 90 Degree Elbow	750.45	226.55
23 31 16 16-0076 EA 20" Fiber Reinforced Plastic 90 Degree Elbow	861.17	246.25
23 31 16 16-0077 EA 24" Fiber Reinforced Plastic 90 Degree Elbow	994.39	270.88
23 31 16 16-0078 EA 30" Fiber Reinforced Plastic 90 Degree Elbow	1,322.21	295.50
23 31 16 16-0079 EA 36" Fiber Reinforced Plastic 90 Degree Elbow	1,680.87	332.44
23 31 16 16-0080 EA 42" Fiber Reinforced Plastic 90 Degree Elbow	2,193.13	369.48



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 16 16-0081	EA	48" Fiber Reinforced Plastic 90 Degree Elbow	2,592.77	406.42
23 31 16 16-0082	EA	54" Fiber Reinforced Plastic 90 Degree Elbow	3,074.28	492.51
23 31 16 16-0083	EA	60" Fiber Reinforced Plastic 90 Degree Elbow	3,730.17	615.63
23 31 16 16-0084	EA	66" Fiber Reinforced Plastic 90 Degree Elbow	4,385.67	738.55
23 31 16 16-0085	EA	72" Fiber Reinforced Plastic 90 Degree Elbow	5,000.35	836.95
23 31 16 16-0086 Fiber Reinforced Plastic 45 Degree Elbow (23 31 16 16-0001)				
23 31 16 16-0087	EA	2" Fiber Reinforced Plastic 45 Degree Elbow	133.71	53.14
23 31 16 16-0088	EA	3" Fiber Reinforced Plastic 45 Degree Elbow	157.10	63.51
23 31 16 16-0089	EA	4" Fiber Reinforced Plastic 45 Degree Elbow	182.51	73.87
23 31 16 16-0090	EA	6" Fiber Reinforced Plastic 45 Degree Elbow	231.77	98.50
23 31 16 16-0091	EA	8" Fiber Reinforced Plastic 45 Degree Elbow	281.01	123.13
23 31 16 16-0092	EA	10" Fiber Reinforced Plastic 45 Degree Elbow	334.42	147.75
23 31 16 16-0093	EA	12" Fiber Reinforced Plastic 45 Degree Elbow	412.81	183.77
23 31 16 16-0094	EA	14" Fiber Reinforced Plastic 45 Degree Elbow	447.08	194.54
23 31 16 16-0095	EA	16" Fiber Reinforced Plastic 45 Degree Elbow	528.15	211.16
23 31 16 16-0096	EA	18" Fiber Reinforced Plastic 45 Degree Elbow	603.23	226.75
23 31 16 16-0097	EA	20" Fiber Reinforced Plastic 45 Degree Elbow	693.12	246.25
23 31 16 16-0098	EA	24" Fiber Reinforced Plastic 45 Degree Elbow	795.21	270.67
23 31 16 16-0099	EA	30" Fiber Reinforced Plastic 45 Degree Elbow	994.05	295.30
23 31 16 16-0100	EA	36" Fiber Reinforced Plastic 45 Degree Elbow	1,208.12	332.75
23 31 16 16-0101	EA	42" Fiber Reinforced Plastic 45 Degree Elbow	1,523.69	369.68
23 31 16 16-0102	EA	48" Fiber Reinforced Plastic 45 Degree Elbow	1,783.58	406.42
23 31 16 16-0103	EA	54" Fiber Reinforced Plastic 45 Degree Elbow	2,127.83	492.51
23 31 16 16-0104	EA	60" Fiber Reinforced Plastic 45 Degree Elbow	2,558.38	615.63
23 31 16 16-0105	EA	66" Fiber Reinforced Plastic 45 Degree Elbow	3,010.76	737.12
23 31 16 16-0106	EA	72" Fiber Reinforced Plastic 45 Degree Elbow	3,403.97	837.77
23 31 16 16-0107 Fiber Reinforced Plastic Tee (23 31 16 16-0001)				
23 31 16 16-0108	EA	2" Fiber Reinforced Plastic Tee	203.86	79.31
23 31 16 16-0109	EA	3" Fiber Reinforced Plastic Tee	241.17	95.53
23 31 16 16-0110	EA	4" Fiber Reinforced Plastic Tee	276.87	110.81
23 31 16 16-0111	EA	6" Fiber Reinforced Plastic Tee	358.93	147.75
23 31 16 16-0112	EA	8" Fiber Reinforced Plastic Tee	439.37	183.77
23 31 16 16-0113	EA	10" Fiber Reinforced Plastic Tee	524.64	222.65
23 31 16 16-0114	EA	12" Fiber Reinforced Plastic Tee	634.15	269.85
23 31 16 16-0115	EA	14" Fiber Reinforced Plastic Tee	691.60	292.01
23 31 16 16-0116	EA	16" Fiber Reinforced Plastic Tee	794.99	317.25
23 31 16 16-0117	EA	18" Fiber Reinforced Plastic Tee	894.15	339.82
23 31 16 16-0118	EA	20" Fiber Reinforced Plastic Tee	1,025.44	369.48
23 31 16 16-0119	EA	24" Fiber Reinforced Plastic Tee	1,169.01	406.42
23 31 16 16-0120	EA	30" Fiber Reinforced Plastic Tee	1,383.89	443.15
23 31 16 16-0121	EA	36" Fiber Reinforced Plastic Tee	1,650.91	498.86
23 31 16 16-0122	EA	42" Fiber Reinforced Plastic Tee	2,152.86	554.28
23 31 16 16-0123	EA	48" Fiber Reinforced Plastic Tee	2,552.73	609.78
23 31 16 16-0124	EA	54" Fiber Reinforced Plastic Tee	3,075.77	739.26
23 31 16 16-0125	EA	60" Fiber Reinforced Plastic Tee	3,690.70	923.86
23 31 16 16-0126	EA	66" Fiber Reinforced Plastic Tee	4,305.04	1,108.03
23 31 16 16-0127	EA	72" Fiber Reinforced Plastic Tee	4,859.56	1,256.40
23 31 16 16-0128 Fiber Reinforced Plastic Lateral Joint (23 31 16 16-0001)				
23 31 16 16-0129	EA	2" Fiber Reinforced Plastic Lateral Joint	173.12	79.31
23 31 16 16-0130	EA	3" Fiber Reinforced Plastic Lateral Joint	204.27	95.53
23 31 16 16-0131	EA	4" Fiber Reinforced Plastic Lateral Joint	233.89	110.81
23 31 16 16-0132	EA	6" Fiber Reinforced Plastic Lateral Joint	299.59	147.75
23 31 16 16-0133	EA	8" Fiber Reinforced Plastic Lateral Joint	363.64	183.77
23 31 16 16-0134	EA	10" Fiber Reinforced Plastic Lateral Joint	436.61	222.65
23 31 16 16-0135	EA	12" Fiber Reinforced Plastic Lateral Joint	523.77	270.05
23 31 16 16-0136	EA	14" Fiber Reinforced Plastic Lateral Joint	568.22	291.81
23 31 16 16-0137	EA	16" Fiber Reinforced Plastic Lateral Joint	623.12	317.35
23 31 16 16-0138	EA	18" Fiber Reinforced Plastic Lateral Joint	673.41	340.14
23 31 16 16-0139	EA	20" Fiber Reinforced Plastic Lateral Joint	734.99	369.68
23 31 16 16-0140	EA	24" Fiber Reinforced Plastic Lateral Joint	812.56	406.42
23 31 16 16-0141	EA	30" Fiber Reinforced Plastic Lateral Joint	895.91	442.95
23 31 16 16-0142	EA	36" Fiber Reinforced Plastic Lateral Joint	1,011.22	498.55
23 31 16 16-0143	EA	42" Fiber Reinforced Plastic Lateral Joint	1,129.23	554.58
23 31 16 16-0144	EA	48" Fiber Reinforced Plastic Lateral Joint	1,241.23	609.58
23 31 16 16-0145	EA	54" Fiber Reinforced Plastic Lateral Joint	1,484.57	737.12
23 31 16 16-0146	EA	60" Fiber Reinforced Plastic Lateral Joint	1,819.02	925.50
23 31 16 16-0147	EA	66" Fiber Reinforced Plastic Lateral Joint	2,196.33	1,108.85
23 31 16 16-0148	EA	72" Fiber Reinforced Plastic Lateral Joint	2,462.72	1,256.40
23 31 16 16-0149 Fiber Reinforced Plastic One Piece Reducer (23 31 16 16-0001)				
23 31 16 16-0150	EA	2" Fiber Reinforced Plastic One Piece Reducer	141.94	53.26
23 31 16 16-0151	EA	3" Fiber Reinforced Plastic One Piece Reducer	167.40	63.61
23 31 16 16-0152	EA	4" Fiber Reinforced Plastic One Piece Reducer	196.93	73.87

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 31 16 16-0153	EA	6" Fiber Reinforced Plastic One Piece Reducer	254.31	98.50
23 31 16 16-0154	EA	8" Fiber Reinforced Plastic One Piece Reducer	307.64	123.13
23 31 16 16-0155	EA	10" Fiber Reinforced Plastic One Piece Reducer	370.15	148.37
23 31 16 16-0156	EA	12" Fiber Reinforced Plastic One Piece Reducer	441.49	183.77
23 31 16 16-0157	EA	14" Fiber Reinforced Plastic One Piece Reducer	471.67	194.54
23 31 16 16-0158	EA	16" Fiber Reinforced Plastic One Piece Reducer	519.95	211.16
23 31 16 16-0159	EA	18" Fiber Reinforced Plastic One Piece Reducer	570.46	226.75
23 31 16 16-0160	EA	20" Fiber Reinforced Plastic One Piece Reducer	635.76	246.25
23 31 16 16-0161	EA	24" Fiber Reinforced Plastic One Piece Reducer	722.42	271.18
23 31 16 16-0162	EA	30" Fiber Reinforced Plastic One Piece Reducer	808.77	296.01
23 31 16 16-0163	EA	36" Fiber Reinforced Plastic One Piece Reducer	915.17	332.75
23 31 16 16-0164	EA	42" Fiber Reinforced Plastic One Piece Reducer	1,021.79	369.68
23 31 16 16-0165	EA	48" Fiber Reinforced Plastic One Piece Reducer	1,148.52	406.42
23 31 16 16-0166	EA	54" Fiber Reinforced Plastic One Piece Reducer	1,363.71	492.51
23 31 16 16-0167	EA	60" Fiber Reinforced Plastic One Piece Reducer	1,634.47	615.63
23 31 16 16-0168	EA	66" Fiber Reinforced Plastic One Piece Reducer	1,843.07	737.12
23 31 16 16-0169	EA	72" Fiber Reinforced Plastic One Piece Reducer	2,072.39	837.77

23 31 16 16-0170 Fiber Reinforced Plastic Two Piece Reducer (23 31 16 16-0001)

23 31 16 16-0171	EA	2" Fiber Reinforced Plastic Two Piece Reducer	166.53	53.26
23 31 16 16-0172	EA	3" Fiber Reinforced Plastic Two Piece Reducer	183.79	63.61
23 31 16 16-0173	EA	4" Fiber Reinforced Plastic Two Piece Reducer	213.32	73.87
23 31 16 16-0174	EA	6" Fiber Reinforced Plastic Two Piece Reducer	276.84	98.50
23 31 16 16-0175	EA	8" Fiber Reinforced Plastic Two Piece Reducer	340.42	123.13
23 31 16 16-0176	EA	10" Fiber Reinforced Plastic Two Piece Reducer	404.98	148.37
23 31 16 16-0177	EA	12" Fiber Reinforced Plastic Two Piece Reducer	486.56	183.77
23 31 16 16-0178	EA	14" Fiber Reinforced Plastic Two Piece Reducer	529.03	194.54
23 31 16 16-0179	EA	16" Fiber Reinforced Plastic Two Piece Reducer	577.31	211.16
23 31 16 16-0180	EA	18" Fiber Reinforced Plastic Two Piece Reducer	648.30	226.75
23 31 16 16-0181	EA	20" Fiber Reinforced Plastic Two Piece Reducer	807.84	246.25
23 31 16 16-0182	EA	24" Fiber Reinforced Plastic Two Piece Reducer	974.40	271.18
23 31 16 16-0183	EA	30" Fiber Reinforced Plastic Two Piece Reducer	1,046.41	296.01
23 31 16 16-0184	EA	36" Fiber Reinforced Plastic Two Piece Reducer	1,189.68	332.75
23 31 16 16-0185	EA	42" Fiber Reinforced Plastic Two Piece Reducer	1,292.20	369.68
23 31 16 16-0186	EA	48" Fiber Reinforced Plastic Two Piece Reducer	1,414.84	406.42
23 31 16 16-0187	EA	54" Fiber Reinforced Plastic Two Piece Reducer	1,578.81	492.51
23 31 16 16-0188	EA	60" Fiber Reinforced Plastic Two Piece Reducer	1,837.28	615.63
23 31 16 16-0189	EA	66" Fiber Reinforced Plastic Two Piece Reducer	2,068.42	737.12
23 31 16 16-0190	EA	72" Fiber Reinforced Plastic Two Piece Reducer	2,277.25	837.77

23 31 16 16-0191 Fiber Reinforced Plastic Butterfly Dampers (23 31 16 16-0001)

23 31 16 16-0192	EA	2" Fiber Reinforced Plastic Damper	423.69	53.14
23 31 16 16-0193	EA	3" Fiber Reinforced Plastic Damper	476.22	63.51
23 31 16 16-0194	EA	4" Fiber Reinforced Plastic Damper	528.73	73.87
23 31 16 16-0195	EA	6" Fiber Reinforced Plastic Damper	622.67	98.50
23 31 16 16-0196	EA	8" Fiber Reinforced Plastic Damper	734.25	123.13
23 31 16 16-0197	EA	10" Fiber Reinforced Plastic Damper	828.20	147.75
23 31 16 16-0198	EA	12" Fiber Reinforced Plastic Damper	941.06	183.77
23 31 16 16-0199	EA	14" Fiber Reinforced Plastic Damper	1,047.27	194.54
23 31 16 16-0200	EA	16" Fiber Reinforced Plastic Damper	1,163.35	211.27
23 31 16 16-0201	EA	18" Fiber Reinforced Plastic Damper	1,276.97	226.55
23 31 16 16-0202	EA	20" Fiber Reinforced Plastic Damper	1,362.75	246.25
23 31 16 16-0203	EA	24" Fiber Reinforced Plastic Damper	1,544.87	270.88
23 31 16 16-0204	EA	30" Fiber Reinforced Plastic Damper	1,797.50	295.50
23 31 16 16-0205	EA	36" Fiber Reinforced Plastic Damper	2,070.73	332.44
23 31 16 16-0206	EA	42" Fiber Reinforced Plastic Damper	2,379.18	369.48
23 31 16 16-0207	EA	48" Fiber Reinforced Plastic Damper	2,652.43	406.42
23 31 16 16-0208	EA	54" Fiber Reinforced Plastic Damper	3,113.34	492.51
23 31 16 16-0209	EA	60" Fiber Reinforced Plastic Damper	3,635.96	615.63
23 31 16 16-0210	EA	66" Fiber Reinforced Plastic Damper	4,122.93	738.55
23 31 16 16-0211	EA	72" Fiber Reinforced Plastic Damper	4,745.42	836.95

23 31 16 23 Fabric Ducts (23 31 16)**23 31 16 23-0001 Heavy Duty Fabric Ducts (Zip-A-Duct™) (23 31 16 23)****23 31 16 23-0002 Heavy Duty Fabric Duct Without Vents (23 31 16 23-0001)**

Note: Includes fabric loops for cable hooks. Requires Suspension Hardware as well as an Inlet Section and Endcap per complete run. See CSI section 23 31 16 23-0064 for suspension hardware.

23 31 16 23-0003	EA	12" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents	188.14	8.21
Note: Excludes suspension cable and hardware.				
23 31 16 23-0004	EA	12" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents	294.44	10.95
Note: Excludes suspension cable and hardware.				
23 31 16 23-0005	EA	16" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents	226.51	13.69
Note: Excludes suspension cable and hardware.				
23 31 16 23-0006	EA	16" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents	337.55	17.99
Note: Excludes suspension cable and hardware.				
23 31 16 23-0007	EA	20" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents	274.58	18.78
Note: Excludes suspension cable and hardware.				



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 16 23-0008	EA	20" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents..... Note: Excludes suspension cable and hardware.	393.73	25.03
23 31 16 23-0009	EA	24" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents..... Note: Excludes suspension cable and hardware.	319.49	24.24
23 31 16 23-0010	EA	24" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents..... Note: Excludes suspension cable and hardware.	449.91	32.06
23 31 16 23-0011	EA	28" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents..... Note: Excludes suspension cable and hardware.	356.28	27.77
23 31 16 23-0012	EA	28" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents..... Note: Excludes suspension cable and hardware.	535.01	37.15
23 31 16 23-0013	EA	32" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents..... Note: Excludes suspension cable and hardware.	391.91	30.90
23 31 16 23-0014	EA	32" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents..... Note: Excludes suspension cable and hardware.	596.96	41.06
23 31 16 23-0015	EA	36" Diameter x 5' Long Gray Heavy Duty Fabric Duct Without Vents..... Note: Excludes suspension cable and hardware.	426.72	35.20
23 31 16 23-0016	EA	36" Diameter x 10' Long Gray Heavy Duty Fabric Duct Without Vents..... Note: Excludes suspension cable and hardware.	688.79	46.92
23 31 16 23-0017 Heavy Duty Fabric Duct With Vents (23 31 16 23-0001)				
23 31 16 23-0018	EA	12" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents..... Note: Excludes suspension cable and hardware.	512.25	10.95
23 31 16 23-0019	EA	16" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents..... Note: Excludes suspension cable and hardware.	568.43	17.99
23 31 16 23-0020	EA	20" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents..... Note: Excludes suspension cable and hardware.	635.50	25.03
23 31 16 23-0021	EA	24" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents..... Note: Excludes suspension cable and hardware.	704.75	32.06
23 31 16 23-0022	EA	28" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents..... Note: Excludes suspension cable and hardware.	848.66	37.15
23 31 16 23-0023	EA	32" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents..... Note: Excludes suspension cable and hardware.	910.61	41.06
23 31 16 23-0024	EA	36" Diameter x 10' Long Gray Heavy Duty Fabric Duct With Vents..... Note: Excludes suspension cable and hardware.	1,028.58	46.92
23 31 16 23-0025 Heavy Duty Fabric Duct 90 Degree Elbow (23 31 16 23-0001)				
23 31 16 23-0026	EA	12" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow..... Note: Excludes suspension cable and hardware.	381.76	11.73
23 31 16 23-0027	EA	16" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow..... Note: Excludes suspension cable and hardware.	427.05	18.78
23 31 16 23-0028	EA	20" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow..... Note: Excludes suspension cable and hardware.	577.72	20.34
23 31 16 23-0029	EA	24" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow..... Note: Excludes suspension cable and hardware.	705.78	27.37
23 31 16 23-0030	EA	28" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow..... Note: Excludes suspension cable and hardware.	891.68	30.50
23 31 16 23-0031	EA	32" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow..... Note: Excludes suspension cable and hardware.	1,111.25	33.24
23 31 16 23-0032	EA	36" Diameter Gray Heavy Duty Fabric Duct 90 Degree Elbow..... Note: Excludes suspension cable and hardware.	1,262.61	37.15
23 31 16 23-0033 Heavy Duty Fabric Duct 45 Degree Elbow (23 31 16 23-0001)				
23 31 16 23-0034	EA	12" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow..... Note: Excludes suspension cable and hardware.	292.46	11.73
23 31 16 23-0035	EA	16" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow..... Note: Excludes suspension cable and hardware.	344.28	18.78
23 31 16 23-0036	EA	20" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow..... Note: Excludes suspension cable and hardware.	386.05	20.34
23 31 16 23-0037	EA	24" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow..... Note: Excludes suspension cable and hardware.	450.94	27.37
23 31 16 23-0038	EA	28" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow..... Note: Excludes suspension cable and hardware.	521.41	30.50
23 31 16 23-0039	EA	32" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow..... Note: Excludes suspension cable and hardware.	625.53	33.24
23 31 16 23-0040	EA	36" Diameter Gray Heavy Duty Fabric Duct 45 Degree Elbow..... Note: Excludes suspension cable and hardware.	713.62	37.15
23 31 16 23-0041 Heavy Duty Fabric Duct Tee (23 31 16 23-0001)				
23 31 16 23-0042	EA	16" x 12" x 12" Gray Heavy Duty Fabric Duct Tee..... Note: Excludes suspension cable and hardware.	932.30	27.37
23 31 16 23-0043	EA	20" x 16" x 16" Gray Heavy Duty Fabric Duct Tee..... Note: Excludes suspension cable and hardware.	981.78	29.33
23 31 16 23-0044	EA	24" x 16" x 16" Gray Heavy Duty Fabric Duct Tee..... Note: Excludes suspension cable and hardware.	1,064.88	39.49
23 31 16 23-0045	EA	28" x 20" x 20" Gray Heavy Duty Fabric Duct Tee..... Note: Excludes suspension cable and hardware.	1,120.48	44.19
23 31 16 23-0046	EA	32" x 24" x 24" Gray Heavy Duty Fabric Duct Tee..... Note: Excludes suspension cable and hardware.	1,162.81	48.10

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 31 HVAC Ducts and Casings**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 31 16 23-0047	EA	36" x 28" x 28" Gray Heavy Duty Fabric Duct Tee..... Note: Excludes suspension cable and hardware.	1,219.80	53.96
23 31 16 23-0048		Heavy Duty Fabric Duct Inlets (23 31 16 23-0001)		
23 31 16 23-0049	EA	12" Diameter Gray Heavy Duty Fabric Duct Transition Inlet..... Note: Excludes suspension cable and hardware.	150.88	11.73
23 31 16 23-0050	EA	16" Diameter Gray Heavy Duty Fabric Duct Transition Inlet..... Note: Excludes suspension cable and hardware.	178.74	18.78
23 31 16 23-0051	EA	20" Diameter Gray Heavy Duty Fabric Duct Transition Inlet..... Note: Excludes suspension cable and hardware.	192.20	20.34
23 31 16 23-0052	EA	24" Diameter Gray Heavy Duty Fabric Duct Transition Inlet..... Note: Excludes suspension cable and hardware.	222.24	27.37
23 31 16 23-0053	EA	28" Diameter Gray Heavy Duty Fabric Duct Transition Inlet..... Note: Excludes suspension cable and hardware.	238.25	30.50
23 31 16 23-0054	EA	32" Diameter Gray Heavy Duty Fabric Duct Transition Inlet..... Note: Excludes suspension cable and hardware.	255.26	33.24
23 31 16 23-0055	EA	36" Diameter Gray Heavy Duty Fabric Duct Transition Inlet..... Note: Excludes suspension cable and hardware.	280.17	37.15
23 31 16 23-0056		Heavy Duty Fabric Duct Cap (23 31 16 23-0001)		
23 31 16 23-0057	EA	12" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	88.74	7.04
23 31 16 23-0058	EA	16" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	112.67	11.34
23 31 16 23-0059	EA	20" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	132.47	12.12
23 31 16 23-0060	EA	24" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	184.70	16.42
23 31 16 23-0061	EA	28" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	221.12	18.38
23 31 16 23-0062	EA	32" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	275.95	19.94
23 31 16 23-0063	EA	36" Diameter Gray Heavy Duty Fabric Duct End Cap..... Note: Excludes suspension cable and hardware.	311.38	22.29
23 31 16 23-0064		Heavy Duty Fabric Duct Suspension Hardware (23 31 16 23-0001)		
23 31 16 23-0065	EA	12 To 20 Inch Diameter Ducts Fixing Strap With Galvanized Hardware..... Note: Vertical support straps are recommended every six (6) to ten (10) feet along the length of the duct.	34.53	5.93
23 31 16 23-0066	EA	20 To 36 Inch Diameter Ducts Fixing Strap With Galvanized Hardware..... Note: Vertical support straps are recommended every six (6) to ten (10) feet along the length of the duct.	53.85	8.89
23 31 16 23-0067	EA	Galvanized Cable Locks For Horizontal Cables..... Note: Requires two (2) cable locks per support point or per stretcher.	12.79	2.96
23 31 16 23-0068	LF	Galvanized Plastic Coated Cable For Fabric Duct..... Note: Excludes anchor bolts or anchors.	0.78	0.12
23 31 16 23-0069	EA	Galvanized Stretcher For Straight Fabric Duct Runs.....	29.71	5.93
23 31 16 23-0070	EA	12 To 20 Inch Diameter Ducts Fixing Strap With Stainless Steel Hardware..... Note: Vertical support straps are recommended every six (6) to ten (10) feet along the length of the duct.	63.45	5.93
23 31 16 23-0071	EA	20 To 36 Inch Diameter Ducts Fixing Strap With Stainless Steel Hardware..... Note: Vertical support straps are recommended every six (6) to ten (10) feet along the length of the duct.	86.74	8.89
23 31 16 23-0072	EA	Stainless Steel Cable Locks For Horizontal Cables..... Note: Requires two (2) cable locks per support point or per stretcher.	16.86	2.96
23 31 16 23-0073	LF	Stainless Steel Plastic Coated Cable For Fabric Duct..... Note: Excludes anchor bolts or anchors.	2.44	0.12
23 31 16 23-0074	EA	Stainless Steel Stretcher For Straight Fabric Duct Runs.....	40.25	5.93
23 33		Air Duct Accessories (23 30)		
23 33 13		Dampers (23 33)		
23 33 13 13		Volume-Control Dampers (23 33 13)		
23 33 13 13-0001		Radial Opposed Blade Damper Steel Construction (Ruskin CDR) (23 33 13 13)		
23 33 13 13-0002	EA	6" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated..... For Stainless Steel, Add For Parallel Blade Damper, Add	140.91 135.46 41.68	9.47
23 33 13 13-0003	EA	7" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated..... For Stainless Steel, Add For Parallel Blade Damper, Add	148.28 137.41 42.28	10.64
23 33 13 13-0004	EA	8" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated..... For Stainless Steel, Add For Parallel Blade Damper, Add	156.33 138.87 42.73	11.82
23 33 13 13-0005	EA	10" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated..... For Stainless Steel, Add For Parallel Blade Damper, Add	168.07 147.54 45.40	14.19
23 33 13 13-0006	EA	12" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated..... For Stainless Steel, Add For Parallel Blade Damper, Add	181.00 156.22 48.07	15.38
23 33 13 13-0007	EA	14" Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated..... For Stainless Steel, Add For Parallel Blade Damper, Add	220.08 199.62 61.42	16.56



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0008	EA	15"	Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	240.32	17.74
			For Stainless Steel, Add	216.98	
			For Parallel Blade Damper, Add	66.76	
23 33 13 13-0009	EA	16"	Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	252.40	20.11
			For Stainless Steel, Add	225.62	
			For Parallel Blade Damper, Add	69.42	
23 33 13 13-0010	EA	18"	Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	278.76	21.29
			For Stainless Steel, Add	251.68	
			For Parallel Blade Damper, Add	77.44	
23 33 13 13-0011	EA	20"	Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	332.90	23.66
			For Stainless Steel, Add	312.44	
			For Parallel Blade Damper, Add	96.14	
23 33 13 13-0012	EA	24"	Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	370.45	23.66
			For Stainless Steel, Add	355.78	
			For Parallel Blade Damper, Add	109.47	
23 33 13 13-0013	EA	30"	Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	426.87	27.20
			For Stainless Steel, Add	416.55	
			For Parallel Blade Damper, Add	128.17	
23 33 13 13-0014	EA	36"	Diameter Radial Opposed Blade Damper Round, Steel Construction, Manual Operated	461.19	28.39
			For Stainless Steel, Add	453.90	
			For Parallel Blade Damper, Add	139.66	
23 33 13 13-0015 Rectangular Opposed Blade Damper (Ruskin CD) (23 33 13 13)					
23 33 13 13-0016	EA	6" x 6"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	134.68	13.16
			For Stainless Steel, Add	123.79	
			For Parallel Blade Damper, Add	38.09	
23 33 13 13-0017	EA	8" x 6"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	143.22	13.74
			For Stainless Steel, Add	132.57	
			For Parallel Blade Damper, Add	40.79	
23 33 13 13-0018	EA	8" x 8"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	150.27	13.86
			For Stainless Steel, Add	141.43	
			For Parallel Blade Damper, Add	43.52	
23 33 13 13-0019	EA	10" x 6"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	150.27	13.86
			For Stainless Steel, Add	141.43	
			For Parallel Blade Damper, Add	43.52	
23 33 13 13-0020	EA	10" x 8"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	158.26	14.23
			For Stainless Steel, Add	150.27	
			For Parallel Blade Damper, Add	46.24	
23 33 13 13-0021	EA	10" x 10"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	176.56	15.77
			For Stainless Steel, Add	167.91	
			For Parallel Blade Damper, Add	51.66	
23 33 13 13-0022	EA	12" x 6"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	158.26	14.23
			For Stainless Steel, Add	150.27	
			For Parallel Blade Damper, Add	46.24	
23 33 13 13-0023	EA	12" x 8"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	174.19	15.05
			For Stainless Steel, Add	167.91	
			For Parallel Blade Damper, Add	51.66	
23 33 13 13-0024	EA	12" x 10"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	183.42	15.77
			For Stainless Steel, Add	176.83	
			For Parallel Blade Damper, Add	54.41	
23 33 13 13-0025	EA	12" x 12"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	202.65	17.78
			For Stainless Steel, Add	194.12	
			For Parallel Blade Damper, Add	59.73	
23 33 13 13-0026	EA	14" x 6"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	170.84	15.05
			For Stainless Steel, Add	163.55	
			For Parallel Blade Damper, Add	50.32	
23 33 13 13-0027	EA	14" x 8"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	183.42	15.77
			For Stainless Steel, Add	176.83	
			For Parallel Blade Damper, Add	54.41	
23 33 13 13-0028	EA	14" x 10"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	192.60	16.59
			For Stainless Steel, Add	185.68	
			For Parallel Blade Damper, Add	57.13	
23 33 13 13-0029	EA	14" x 12"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	202.96	17.78
			For Stainless Steel, Add	194.52	
			For Parallel Blade Damper, Add	59.85	
23 33 13 13-0030	EA	14" x 14"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	225.86	19.79
			For Stainless Steel, Add	216.59	
			For Parallel Blade Damper, Add	66.64	
23 33 13 13-0031	EA	16" x 6"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	183.42	15.77
			For Stainless Steel, Add	176.83	
			For Parallel Blade Damper, Add	54.41	
23 33 13 13-0032	EA	16" x 8"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	193.78	16.94
			For Stainless Steel, Add	185.68	
			For Parallel Blade Damper, Add	57.13	
23 33 13 13-0033	EA	16" x 10"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	205.32	18.60
			For Stainless Steel, Add	194.52	
			For Parallel Blade Damper, Add	59.85	
23 33 13 13-0034	EA	16" x 12"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	215.65	19.79
			For Stainless Steel, Add	203.32	
			For Parallel Blade Damper, Add	62.56	
23 33 13 13-0035	EA	16" x 14"	Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	238.64	21.68
			For Stainless Steel, Add	225.50	
			For Parallel Blade Damper, Add	69.38	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0036 EA 16" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	261.55	23.70
For Stainless Steel, Add	247.57	
For Parallel Blade Damper, Add	76.18	
23 33 13 13-0037 EA 18" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	192.60	16.59
For Stainless Steel, Add	185.68	
For Parallel Blade Damper, Add	57.13	
23 33 13 13-0038 EA 18" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	206.32	17.78
For Stainless Steel, Add	198.89	
For Parallel Blade Damper, Add	61.20	
23 33 13 13-0039 EA 18" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	222.50	19.79
For Stainless Steel, Add	212.23	
For Parallel Blade Damper, Add	65.30	
23 33 13 13-0040 EA 18" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	245.45	21.68
For Stainless Steel, Add	234.35	
For Parallel Blade Damper, Add	72.11	
23 33 13 13-0041 EA 18" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	264.95	23.70
For Stainless Steel, Add	251.99	
For Parallel Blade Damper, Add	77.54	
23 33 13 13-0042 EA 18" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	278.25	25.60
For Stainless Steel, Add	261.60	
For Parallel Blade Damper, Add	80.49	
23 33 13 13-0043 EA 18" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	293.93	27.61
For Stainless Steel, Add	274.27	
For Parallel Blade Damper, Add	84.39	
23 33 13 13-0044 EA 20" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	189.36	17.78
For Stainless Steel, Add	176.84	
For Parallel Blade Damper, Add	54.41	
23 33 13 13-0045 EA 20" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	207.62	19.79
For Stainless Steel, Add	192.88	
For Parallel Blade Damper, Add	59.35	
23 33 13 13-0046 EA 20" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	225.93	21.68
For Stainless Steel, Add	208.98	
For Parallel Blade Damper, Add	64.30	
23 33 13 13-0047 EA 20" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	256.61	23.70
For Stainless Steel, Add	241.15	
For Parallel Blade Damper, Add	74.20	
23 33 13 13-0048 EA 20" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	271.81	25.60
For Stainless Steel, Add	253.23	
For Parallel Blade Damper, Add	77.92	
23 33 13 13-0049 EA 20" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	287.02	27.61
For Stainless Steel, Add	265.29	
For Parallel Blade Damper, Add	81.63	
23 33 13 13-0050 EA 20" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	305.27	29.63
For Stainless Steel, Add	281.32	
For Parallel Blade Damper, Add	86.56	
23 33 13 13-0051 EA 20" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	323.54	31.52
For Stainless Steel, Add	297.36	
For Parallel Blade Damper, Add	91.50	
23 33 13 13-0052 EA 24" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	213.81	19.79
For Stainless Steel, Add	200.93	
For Parallel Blade Damper, Add	61.82	
23 33 13 13-0053 EA 24" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	238.30	21.68
For Stainless Steel, Add	225.06	
For Parallel Blade Damper, Add	69.25	
23 33 13 13-0054 EA 24" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	256.61	23.70
For Stainless Steel, Add	241.15	
For Parallel Blade Damper, Add	74.20	
23 33 13 13-0055 EA 24" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	281.09	25.60
For Stainless Steel, Add	265.29	
For Parallel Blade Damper, Add	81.63	
23 33 13 13-0056 EA 24" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	296.26	27.61
For Stainless Steel, Add	277.30	
For Parallel Blade Damper, Add	85.32	
23 33 13 13-0057 EA 24" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	311.46	29.63
For Stainless Steel, Add	289.37	
For Parallel Blade Damper, Add	89.04	
23 33 13 13-0058 EA 24" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	335.92	31.52
For Stainless Steel, Add	313.46	
For Parallel Blade Damper, Add	96.45	
23 33 13 13-0059 EA 24" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	366.29	35.55
For Stainless Steel, Add	337.53	
For Parallel Blade Damper, Add	103.86	
23 33 13 13-0060 EA 24" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	402.94	39.46
For Stainless Steel, Add	369.77	
For Parallel Blade Damper, Add	113.78	
23 33 13 13-0061 EA 28" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	238.30	21.68
For Stainless Steel, Add	225.06	
For Parallel Blade Damper, Add	69.25	
23 33 13 13-0062 EA 28" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	256.61	23.70
For Stainless Steel, Add	241.15	
For Parallel Blade Damper, Add	74.20	
23 33 13 13-0063 EA 28" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	281.09	25.60
For Stainless Steel, Add	265.29	
For Parallel Blade Damper, Add	81.63	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0064	EA		28" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	299.35	27.61
			For Stainless Steel, Add	281.32	
			For Parallel Blade Damper, Add	86.56	
23 33 13 13-0065	EA		28" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	320.70	29.63
			For Stainless Steel, Add	301.38	
			For Parallel Blade Damper, Add	92.73	
23 33 13 13-0066	EA		28" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	342.06	31.52
			For Stainless Steel, Add	321.44	
			For Parallel Blade Damper, Add	98.90	
23 33 13 13-0067	EA		28" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	372.48	35.55
			For Stainless Steel, Add	345.58	
			For Parallel Blade Damper, Add	106.33	
23 33 13 13-0068	EA		28" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	402.94	39.46
			For Stainless Steel, Add	369.77	
			For Parallel Blade Damper, Add	113.78	
23 33 13 13-0069	EA		28" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	445.91	41.48
			For Stainless Steel, Add	417.94	
			For Parallel Blade Damper, Add	128.60	
23 33 13 13-0070	EA		28" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	488.67	45.38
			For Stainless Steel, Add	458.11	
			For Parallel Blade Damper, Add	140.96	
23 33 13 13-0071	EA		32" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	275.18	23.70
			For Stainless Steel, Add	265.29	
			For Parallel Blade Damper, Add	81.63	
23 33 13 13-0072	EA		32" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	287.24	25.60
			For Stainless Steel, Add	273.29	
			For Parallel Blade Damper, Add	84.09	
23 33 13 13-0073	EA		32" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	299.35	27.61
			For Stainless Steel, Add	281.32	
			For Parallel Blade Damper, Add	86.56	
23 33 13 13-0074	EA		32" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	317.61	29.63
			For Stainless Steel, Add	297.36	
			For Parallel Blade Damper, Add	91.50	
23 33 13 13-0075	EA		32" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	343.27	31.52
			For Stainless Steel, Add	323.01	
			For Parallel Blade Damper, Add	99.39	
23 33 13 13-0076	EA		32" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	372.48	35.55
			For Stainless Steel, Add	345.58	
			For Parallel Blade Damper, Add	106.33	
23 33 13 13-0077	EA		32" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	409.13	39.46
			For Stainless Steel, Add	377.82	
			For Parallel Blade Damper, Add	116.25	
23 33 13 13-0078	EA		32" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	445.69	43.37
			For Stainless Steel, Add	409.94	
			For Parallel Blade Damper, Add	126.14	
23 33 13 13-0079	EA		32" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	488.67	45.38
			For Stainless Steel, Add	458.11	
			For Parallel Blade Damper, Add	140.96	
23 33 13 13-0080	EA		32" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	541.47	48.58
			For Stainless Steel, Add	514.44	
			For Parallel Blade Damper, Add	158.29	
23 33 13 13-0081	EA		32" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	599.24	51.31
			For Stainless Steel, Add	578.75	
			For Parallel Blade Damper, Add	178.08	
23 33 13 13-0082	EA		36" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	299.61	25.60
			For Stainless Steel, Add	289.37	
			For Parallel Blade Damper, Add	89.04	
23 33 13 13-0083	EA		36" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	317.88	27.61
			For Stainless Steel, Add	305.41	
			For Parallel Blade Damper, Add	93.97	
23 33 13 13-0084	EA		36" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	336.13	29.63
			For Stainless Steel, Add	321.44	
			For Parallel Blade Damper, Add	98.90	
23 33 13 13-0085	EA		36" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	360.63	31.52
			For Stainless Steel, Add	345.58	
			For Parallel Blade Damper, Add	106.33	
23 33 13 13-0086	EA		36" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	381.81	35.55
			For Stainless Steel, Add	357.71	
			For Parallel Blade Damper, Add	110.06	
23 33 13 13-0087	EA		36" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	397.01	37.45
			For Stainless Steel, Add	369.77	
			For Parallel Blade Damper, Add	113.78	
23 33 13 13-0088	EA		36" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	445.69	43.37
			For Stainless Steel, Add	409.94	
			For Parallel Blade Damper, Add	126.14	
23 33 13 13-0089	EA		36" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	488.40	47.40
			For Stainless Steel, Add	450.06	
			For Parallel Blade Damper, Add	138.48	
23 33 13 13-0090	EA		36" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	530.28	48.94
			For Stainless Steel, Add	498.34	
			For Parallel Blade Damper, Add	153.34	
23 33 13 13-0091	EA		36" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	590.37	52.50
			For Stainless Steel, Add	562.60	
			For Parallel Blade Damper, Add	173.11	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0092	EA	36" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	641.95	55.22
		For Stainless Steel, Add	618.87	
		For Parallel Blade Damper, Add	190.42	
23 33 13 13-0093	EA	36" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	697.35	57.23
		For Stainless Steel, Add	683.18	
		For Parallel Blade Damper, Add	210.21	
23 33 13 13-0094	EA	40" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	311.69	29.63
		For Stainless Steel, Add	297.36	
		For Parallel Blade Damper, Add	91.50	
23 33 13 13-0095	EA	40" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	342.32	31.52
		For Stainless Steel, Add	329.49	
		For Parallel Blade Damper, Add	101.38	
23 33 13 13-0096	EA	40" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	354.44	33.53
		For Stainless Steel, Add	337.53	
		For Parallel Blade Damper, Add	103.86	
23 33 13 13-0097	EA	40" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	366.55	35.55
		For Stainless Steel, Add	345.58	
		For Parallel Blade Damper, Add	106.33	
23 33 13 13-0098	EA	40" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	400.06	37.45
		For Stainless Steel, Add	373.74	
		For Parallel Blade Damper, Add	115.00	
23 33 13 13-0099	EA	40" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	427.66	39.46
		For Stainless Steel, Add	401.91	
		For Parallel Blade Damper, Add	123.66	
23 33 13 13-0100	EA	40" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	470.15	45.38
		For Stainless Steel, Add	434.03	
		For Parallel Blade Damper, Add	133.55	
23 33 13 13-0101	EA	40" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	506.76	49.30
		For Stainless Steel, Add	466.22	
		For Parallel Blade Damper, Add	143.45	
23 33 13 13-0102	EA	40" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	553.32	52.50
		For Stainless Steel, Add	514.44	
		For Parallel Blade Damper, Add	158.29	
23 33 13 13-0103	EA	40" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	629.61	55.22
		For Stainless Steel, Add	602.82	
		For Parallel Blade Damper, Add	185.48	
23 33 13 13-0104	EA	40" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	676.14	58.42
		For Stainless Steel, Add	650.99	
		For Parallel Blade Damper, Add	200.30	
23 33 13 13-0105	EA	40" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	748.92	59.96
		For Stainless Steel, Add	739.44	
		For Parallel Blade Damper, Add	227.52	
23 33 13 13-0106	EA	40" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	820.25	63.16
		For Stainless Steel, Add	819.85	
		For Parallel Blade Damper, Add	252.26	
23 33 13 13-0107	EA	44" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	329.99	29.63
		For Stainless Steel, Add	313.46	
		For Parallel Blade Damper, Add	96.45	
23 33 13 13-0108	EA	44" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	360.63	31.52
		For Stainless Steel, Add	345.58	
		For Parallel Blade Damper, Add	106.33	
23 33 13 13-0109	EA	44" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	385.16	33.53
		For Stainless Steel, Add	369.77	
		For Parallel Blade Damper, Add	113.78	
23 33 13 13-0110	EA	44" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	397.28	35.55
		For Stainless Steel, Add	377.82	
		For Parallel Blade Damper, Add	116.25	
23 33 13 13-0111	EA	44" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	427.91	37.45
		For Stainless Steel, Add	409.94	
		For Parallel Blade Damper, Add	126.14	
23 33 13 13-0112	EA	44" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	458.56	39.46
		For Stainless Steel, Add	442.08	
		For Parallel Blade Damper, Add	136.02	
23 33 13 13-0113	EA	44" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	513.20	47.40
		For Stainless Steel, Add	482.30	
		For Parallel Blade Damper, Add	148.40	
23 33 13 13-0114	EA	44" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	555.91	51.31
		For Stainless Steel, Add	522.42	
		For Parallel Blade Damper, Add	160.74	
23 33 13 13-0115	EA	44" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	629.61	55.22
		For Stainless Steel, Add	602.82	
		For Parallel Blade Damper, Add	185.48	
23 33 13 13-0116	EA	44" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	697.12	59.25
		For Stainless Steel, Add	675.18	
		For Parallel Blade Damper, Add	207.75	
23 33 13 13-0117	EA	44" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	770.73	63.16
		For Stainless Steel, Add	755.47	
		For Parallel Blade Damper, Add	232.45	
23 33 13 13-0118	EA	44" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	832.32	65.05
		For Stainless Steel, Add	827.83	
		For Parallel Blade Damper, Add	254.72	
23 33 13 13-0119	EA	44" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	893.91	67.07
		For Stainless Steel, Add	900.19	
		For Parallel Blade Damper, Add	276.98	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0120	EA	44" x 44" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	955.49	69.08
		For Stainless Steel, Add	972.54	
		For Parallel Blade Damper, Add	299.24	
23 33 13 13-0121	EA	48" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	354.44	31.52
		For Stainless Steel, Add	337.53	
		For Parallel Blade Damper, Add	103.86	
23 33 13 13-0122	EA	48" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	385.16	33.53
		For Stainless Steel, Add	369.77	
		For Parallel Blade Damper, Add	113.78	
23 33 13 13-0123	EA	48" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	397.28	35.55
		For Stainless Steel, Add	377.82	
		For Parallel Blade Damper, Add	116.25	
23 33 13 13-0124	EA	48" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	427.66	39.46
		For Stainless Steel, Add	401.91	
		For Parallel Blade Damper, Add	123.66	
23 33 13 13-0125	EA	48" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	464.22	43.37
		For Stainless Steel, Add	434.03	
		For Parallel Blade Damper, Add	133.55	
23 33 13 13-0126	EA	48" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	500.83	47.40
		For Stainless Steel, Add	466.22	
		For Parallel Blade Damper, Add	143.45	
23 33 13 13-0127	EA	48" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	549.77	51.31
		For Stainless Steel, Add	514.44	
		For Parallel Blade Damper, Add	158.29	
23 33 13 13-0128	EA	48" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	598.67	55.22
		For Stainless Steel, Add	562.60	
		For Parallel Blade Damper, Add	173.11	
23 33 13 13-0129	EA	48" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	666.17	59.25
		For Stainless Steel, Add	634.95	
		For Parallel Blade Damper, Add	195.37	
23 33 13 13-0130	EA	48" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	746.02	63.16
		For Stainless Steel, Add	723.35	
		For Parallel Blade Damper, Add	222.57	
23 33 13 13-0131	EA	48" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	807.65	65.05
		For Stainless Steel, Add	795.76	
		For Parallel Blade Damper, Add	244.65	
23 33 13 13-0132	EA	48" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	887.72	67.07
		For Stainless Steel, Add	892.14	
		For Parallel Blade Damper, Add	274.50	
23 33 13 13-0133	EA	48" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	955.23	70.98
		For Stainless Steel, Add	964.50	
		For Parallel Blade Damper, Add	296.77	
23 33 13 13-0134	EA	48" x 44" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,035.33	73.00
		For Stainless Steel, Add	1,060.93	
		For Parallel Blade Damper, Add	326.44	
23 33 13 13-0135	EA	48" x 48" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,102.57	78.92
		For Stainless Steel, Add	1,125.24	
		For Parallel Blade Damper, Add	346.23	
23 33 13 13-0136	EA	52" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	378.97	33.53
		For Stainless Steel, Add	361.73	
		For Parallel Blade Damper, Add	111.30	
23 33 13 13-0137	EA	52" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	409.62	35.55
		For Stainless Steel, Add	393.86	
		For Parallel Blade Damper, Add	121.19	
23 33 13 13-0138	EA	52" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	446.18	39.46
		For Stainless Steel, Add	425.98	
		For Parallel Blade Damper, Add	131.07	
23 33 13 13-0139	EA	52" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	464.22	43.37
		For Stainless Steel, Add	434.03	
		For Parallel Blade Damper, Add	133.55	
23 33 13 13-0140	EA	52" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	503.92	47.40
		For Stainless Steel, Add	470.24	
		For Parallel Blade Damper, Add	144.69	
23 33 13 13-0141	EA	52" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	543.58	51.31
		For Stainless Steel, Add	506.39	
		For Parallel Blade Damper, Add	155.81	
23 33 13 13-0142	EA	52" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	592.52	55.22
		For Stainless Steel, Add	554.61	
		For Parallel Blade Damper, Add	170.65	
23 33 13 13-0143	EA	52" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	641.46	59.25
		For Stainless Steel, Add	602.82	
		For Parallel Blade Damper, Add	185.48	
23 33 13 13-0144	EA	52" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	708.97	63.16
		For Stainless Steel, Add	675.18	
		For Parallel Blade Damper, Add	207.75	
23 33 13 13-0145	EA	52" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	794.97	67.07
		For Stainless Steel, Add	771.56	
		For Parallel Blade Damper, Add	237.40	
23 33 13 13-0146	EA	52" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	862.70	69.08
		For Stainless Steel, Add	851.92	
		For Parallel Blade Damper, Add	262.13	
23 33 13 13-0147	EA	52" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	949.04	70.98
		For Stainless Steel, Add	956.45	
		For Parallel Blade Damper, Add	294.29	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0148	EA	52" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,035.03	75.01
		For Stainless Steel, Add	1,052.83	
		For Parallel Blade Damper, Add	323.95	
23 33 13 13-0149	EA	52" x 44" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,102.57	78.92
		For Stainless Steel, Add	1,125.24	
		For Parallel Blade Damper, Add	346.23	
23 33 13 13-0150	EA	52" x 48" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,194.53	84.85
		For Stainless Steel, Add	1,221.69	
		For Parallel Blade Damper, Add	375.90	
23 33 13 13-0151	EA	52" x 52" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,268.24	88.75
		For Stainless Steel, Add	1,302.09	
		For Parallel Blade Damper, Add	400.64	
23 33 13 13-0152	EA	56" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	397.28	35.55
		For Stainless Steel, Add	377.82	
		For Parallel Blade Damper, Add	116.25	
23 33 13 13-0153	EA	56" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	439.99	39.46
		For Stainless Steel, Add	417.94	
		For Parallel Blade Damper, Add	128.60	
23 33 13 13-0154	EA	56" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	470.41	43.37
		For Stainless Steel, Add	442.08	
		For Parallel Blade Damper, Add	136.02	
23 33 13 13-0155	EA	56" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	488.40	47.40
		For Stainless Steel, Add	450.06	
		For Parallel Blade Damper, Add	138.48	
23 33 13 13-0156	EA	56" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	534.29	51.31
		For Stainless Steel, Add	494.31	
		For Parallel Blade Damper, Add	152.10	
23 33 13 13-0157	EA	56" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	580.14	55.22
		For Stainless Steel, Add	538.51	
		For Parallel Blade Damper, Add	165.70	
23 33 13 13-0158	EA	56" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	625.99	59.25
		For Stainless Steel, Add	582.71	
		For Parallel Blade Damper, Add	179.30	
23 33 13 13-0159	EA	56" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	671.84	63.16
		For Stainless Steel, Add	626.91	
		For Parallel Blade Damper, Add	192.90	
23 33 13 13-0160	EA	56" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	757.88	67.07
		For Stainless Steel, Add	723.35	
		For Parallel Blade Damper, Add	222.57	
23 33 13 13-0161	EA	56" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	838.03	69.08
		For Stainless Steel, Add	819.85	
		For Parallel Blade Damper, Add	252.26	
23 33 13 13-0162	EA	56" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	911.95	70.98
		For Stainless Steel, Add	908.23	
		For Parallel Blade Damper, Add	279.46	
23 33 13 13-0163	EA	56" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,010.36	75.01
		For Stainless Steel, Add	1,020.76	
		For Parallel Blade Damper, Add	314.08	
23 33 13 13-0164	EA	56" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,096.39	78.92
		For Stainless Steel, Add	1,117.21	
		For Parallel Blade Damper, Add	343.76	
23 33 13 13-0165	EA	56" x 44" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,188.61	82.83
		For Stainless Steel, Add	1,221.69	
		For Parallel Blade Damper, Add	375.90	
23 33 13 13-0166	EA	56" x 48" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,262.31	86.86
		For Stainless Steel, Add	1,302.09	
		For Parallel Blade Damper, Add	400.64	
23 33 13 13-0167	EA	56" x 52" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,354.53	90.78
		For Stainless Steel, Add	1,406.57	
		For Parallel Blade Damper, Add	432.79	
23 33 13 13-0168	EA	56" x 56" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,446.75	94.68
		For Stainless Steel, Add	1,511.06	
		For Parallel Blade Damper, Add	464.94	
23 33 13 13-0169	EA	60" x 6" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	427.66	39.46
		For Stainless Steel, Add	401.91	
		For Parallel Blade Damper, Add	123.66	
23 33 13 13-0170	EA	60" x 8" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	470.41	43.37
		For Stainless Steel, Add	442.08	
		For Parallel Blade Damper, Add	136.02	
23 33 13 13-0171	EA	60" x 10" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	494.59	47.40
		For Stainless Steel, Add	458.11	
		For Parallel Blade Damper, Add	140.96	
23 33 13 13-0172	EA	60" x 12" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	512.68	51.31
		For Stainless Steel, Add	466.22	
		For Parallel Blade Damper, Add	143.45	
23 33 13 13-0173	EA	60" x 14" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	561.62	55.22
		For Stainless Steel, Add	514.44	
		For Parallel Blade Damper, Add	158.29	
23 33 13 13-0174	EA	60" x 16" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	610.52	59.25
		For Stainless Steel, Add	562.60	
		For Parallel Blade Damper, Add	173.11	
23 33 13 13-0175	EA	60" x 18" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	662.55	63.16
		For Stainless Steel, Add	614.84	
		For Parallel Blade Damper, Add	189.18	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 13-0176	EA		60" x 20" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	714.60	67.07
			For Stainless Steel, Add	667.08	
			For Parallel Blade Damper, Add	205.26	
23 33 13 13-0177	EA		60" x 24" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	800.89	69.08
			For Stainless Steel, Add	771.56	
			For Parallel Blade Damper, Add	237.40	
23 33 13 13-0178	EA		60" x 28" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	881.00	70.98
			For Stainless Steel, Add	868.00	
			For Parallel Blade Damper, Add	267.08	
23 33 13 13-0179	EA		60" x 32" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	973.27	75.01
			For Stainless Steel, Add	972.54	
			For Parallel Blade Damper, Add	299.24	
23 33 13 13-0180	EA		60" x 36" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,065.48	78.92
			For Stainless Steel, Add	1,077.02	
			For Parallel Blade Damper, Add	331.39	
23 33 13 13-0181	EA		60" x 40" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,139.14	82.83
			For Stainless Steel, Add	1,157.38	
			For Parallel Blade Damper, Add	366.12	
23 33 13 13-0182	EA		60" x 44" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,249.88	86.86
			For Stainless Steel, Add	1,285.93	
			For Parallel Blade Damper, Add	395.67	
23 33 13 13-0183	EA		60" x 48" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,348.30	90.78
			For Stainless Steel, Add	1,398.48	
			For Parallel Blade Damper, Add	430.30	
23 33 13 13-0184	EA		60" x 52" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,446.75	94.68
			For Stainless Steel, Add	1,511.06	
			For Parallel Blade Damper, Add	464.94	
23 33 13 13-0185	EA		60" x 56" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,532.70	98.71
			For Stainless Steel, Add	1,607.39	
			For Parallel Blade Damper, Add	494.58	
23 33 13 13-0186	EA		60" x 60" Rectangular Opposed Blade Damper, Steel Construction, Manual Operation	1,618.82	102.63
			For Stainless Steel, Add	1,703.94	
			For Parallel Blade Damper, Add	524.29	
23 33 13 16 Fire Dampers (23 33 13)					
23 33 13 16-0001 Fire Dampers (23 33 13 16)					
23 33 13 16-0002	SF		Curtain Type, Vertical, Fire Damper	138.95	12.80
			For Smoke Damper, Add	85.37	
			For Spring Activated Horizontal Mount Operation, Add	22.60	
			For Dynamic Damper, Add	54.23	
			For 3 Hour Rated, Add	30.13	
23 33 13 16-0003	SF		Louver Type, Vertical, Fire Damper	193.74	12.80
			For Smoke Damper, Add	131.94	
			For Spring Activated Horizontal Mount Operation, Add	34.92	
			For Dynamic Damper, Add	83.82	
			For 3 Hour Rated, Add	46.57	
23 33 13 16-0004 Folding Curtain Fire Dampers (23 33 13 16)					
Note: UL Listed. Air stream 22 gauge galvanized steel construction with fusible link 160 F, gravity actuated for vertical mount 1-1/2 hour fire rating. Damper blades and damper frame are in the air stream.					
23 33 13 16-0005	EA		6" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	69.31	13.16
			For Spring Activated Horizontal Mount Operation, Add	6.72	
			For Dynamic Damper, Add	16.12	
			For 3 Hour Rated, Add	8.96	
			For Cap Of Damper Blades Outside Air Stream, Add	7.46	
23 33 13 16-0006	EA		8" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	73.20	13.74
			For Spring Activated Horizontal Mount Operation, Add	7.19	
			For Dynamic Damper, Add	17.26	
			For 3 Hour Rated, Add	9.59	
			For Cap Of Damper Blades Outside Air Stream, Add	7.99	
23 33 13 16-0007	EA		8" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	75.58	13.86
			For Spring Activated Horizontal Mount Operation, Add	7.67	
			For Dynamic Damper, Add	18.41	
			For 3 Hour Rated, Add	10.23	
			For Cap Of Damper Blades Outside Air Stream, Add	8.53	
23 33 13 16-0008	EA		10" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	75.58	13.86
			For Spring Activated Horizontal Mount Operation, Add	7.67	
			For Dynamic Damper, Add	18.41	
			For 3 Hour Rated, Add	10.23	
			For Cap Of Damper Blades Outside Air Stream, Add	8.53	
23 33 13 16-0009	EA		10" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	78.90	14.23
			For Spring Activated Horizontal Mount Operation, Add	8.15	
			For Dynamic Damper, Add	19.56	
			For 3 Hour Rated, Add	10.87	
			For Cap Of Damper Blades Outside Air Stream, Add	9.06	
23 33 13 16-0010	EA		10" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	87.89	15.77
			For Spring Activated Horizontal Mount Operation, Add	9.11	
			For Dynamic Damper, Add	21.86	
			For 3 Hour Rated, Add	12.15	
			For Cap Of Damper Blades Outside Air Stream, Add	10.12	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0011 EA 12" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	78.90	14.23
For Spring Activated Horizontal Mount Operation, Add	8.15	
For Dynamic Damper, Add	19.56	
For 3 Hour Rated, Add	10.87	
For Cap Of Damper Blades Outside Air Stream, Add	9.06	
23 33 13 16-0012 EA 12" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	85.52	15.05
For Spring Activated Horizontal Mount Operation, Add	9.11	
For Dynamic Damper, Add	21.86	
For 3 Hour Rated, Add	12.15	
For Cap Of Damper Blades Outside Air Stream, Add	10.12	
23 33 13 16-0013 EA 12" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	90.02	15.77
For Spring Activated Horizontal Mount Operation, Add	9.59	
For Dynamic Damper, Add	23.01	
For 3 Hour Rated, Add	12.79	
For Cap Of Damper Blades Outside Air Stream, Add	10.66	
23 33 13 16-0014 EA 12" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	98.09	17.78
For Spring Activated Horizontal Mount Operation, Add	10.07	
For Dynamic Damper, Add	24.17	
For 3 Hour Rated, Add	13.43	
For Cap Of Damper Blades Outside Air Stream, Add	11.19	
23 33 13 16-0015 EA 14" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	84.46	15.05
For Spring Activated Horizontal Mount Operation, Add	8.87	
For Dynamic Damper, Add	21.29	
For 3 Hour Rated, Add	11.83	
For Cap Of Damper Blades Outside Air Stream, Add	9.86	
23 33 13 16-0016 EA 14" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	90.02	15.77
For Spring Activated Horizontal Mount Operation, Add	9.59	
For Dynamic Damper, Add	23.01	
For 3 Hour Rated, Add	12.79	
For Cap Of Damper Blades Outside Air Stream, Add	10.66	
23 33 13 16-0017 EA 14" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	94.53	16.59
For Spring Activated Horizontal Mount Operation, Add	10.07	
For Dynamic Damper, Add	24.17	
For 3 Hour Rated, Add	13.43	
For Cap Of Damper Blades Outside Air Stream, Add	11.19	
23 33 13 16-0018 EA 14" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	100.23	17.78
For Spring Activated Horizontal Mount Operation, Add	10.55	
For Dynamic Damper, Add	25.33	
For 3 Hour Rated, Add	14.07	
For Cap Of Damper Blades Outside Air Stream, Add	11.73	
23 33 13 16-0019 EA 14" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	111.48	19.79
For Spring Activated Horizontal Mount Operation, Add	11.75	
For Dynamic Damper, Add	28.20	
For 3 Hour Rated, Add	15.67	
For Cap Of Damper Blades Outside Air Stream, Add	13.06	
23 33 13 16-0020 EA 16" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	90.02	15.77
For Spring Activated Horizontal Mount Operation, Add	9.59	
For Dynamic Damper, Add	23.01	
For 3 Hour Rated, Add	12.79	
For Cap Of Damper Blades Outside Air Stream, Add	10.66	
23 33 13 16-0021 EA 16" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	95.71	16.94
For Spring Activated Horizontal Mount Operation, Add	10.07	
For Dynamic Damper, Add	24.17	
For 3 Hour Rated, Add	13.43	
For Cap Of Damper Blades Outside Air Stream, Add	11.19	
23 33 13 16-0022 EA 16" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	102.59	18.60
For Spring Activated Horizontal Mount Operation, Add	10.55	
For Dynamic Damper, Add	25.33	
For 3 Hour Rated, Add	14.07	
For Cap Of Damper Blades Outside Air Stream, Add	11.73	
23 33 13 16-0023 EA 16" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	108.26	19.79
For Spring Activated Horizontal Mount Operation, Add	11.03	
For Dynamic Damper, Add	26.47	
For 3 Hour Rated, Add	14.70	
For Cap Of Damper Blades Outside Air Stream, Add	12.25	
23 33 13 16-0024 EA 16" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	119.54	21.68
For Spring Activated Horizontal Mount Operation, Add	12.23	
For Dynamic Damper, Add	29.35	
For 3 Hour Rated, Add	16.31	
For Cap Of Damper Blades Outside Air Stream, Add	13.59	
23 33 13 16-0025 EA 16" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	130.80	23.70
For Spring Activated Horizontal Mount Operation, Add	13.43	
For Dynamic Damper, Add	32.23	
For 3 Hour Rated, Add	17.91	
For Cap Of Damper Blades Outside Air Stream, Add	14.92	
23 33 13 16-0026 EA 18" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	94.53	16.59
For Spring Activated Horizontal Mount Operation, Add	10.07	
For Dynamic Damper, Add	24.17	
For 3 Hour Rated, Add	13.43	
For Cap Of Damper Blades Outside Air Stream, Add	11.19	
23 33 13 16-0027 EA 18" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	101.28	17.78
For Spring Activated Horizontal Mount Operation, Add	10.79	
For Dynamic Damper, Add	25.89	
For 3 Hour Rated, Add	14.39	
For Cap Of Damper Blades Outside Air Stream, Add	11.99	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0028	EA	18" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	110.42	19.79	
		For Spring Activated Horizontal Mount Operation, Add	11.51		
		For Dynamic Damper, Add	27.63		
		For 3 Hour Rated, Add	15.35		
		For Cap Of Damper Blades Outside Air Stream, Add	12.79		
23 33 13 16-0029	EA	18" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	121.68	21.68	
		For Spring Activated Horizontal Mount Operation, Add	12.71		
		For Dynamic Damper, Add	30.51		
		For 3 Hour Rated, Add	16.95		
		For Cap Of Damper Blades Outside Air Stream, Add	14.13		
23 33 13 16-0030	EA	18" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	131.86	23.70	
		For Spring Activated Horizontal Mount Operation, Add	13.67		
		For Dynamic Damper, Add	32.81		
		For 3 Hour Rated, Add	18.23		
		For Cap Of Damper Blades Outside Air Stream, Add	15.19		
23 33 13 16-0031	EA	18" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	143.10	25.60	
		For Spring Activated Horizontal Mount Operation, Add	14.87		
		For Dynamic Damper, Add	35.68		
		For 3 Hour Rated, Add	19.82		
		For Cap Of Damper Blades Outside Air Stream, Add	16.52		
23 33 13 16-0032	EA	18" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	152.23	27.61	
		For Spring Activated Horizontal Mount Operation, Add	15.59		
		For Dynamic Damper, Add	37.41		
		For 3 Hour Rated, Add	20.78		
		For Cap Of Damper Blades Outside Air Stream, Add	17.32		
23 33 13 16-0033	EA	20" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	100.23	17.78	
		For Spring Activated Horizontal Mount Operation, Add	10.55		
		For Dynamic Damper, Add	25.33		
		For 3 Hour Rated, Add	14.07		
		For Cap Of Damper Blades Outside Air Stream, Add	11.73		
23 33 13 16-0034	EA	20" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	110.40	19.79	
		For Spring Activated Horizontal Mount Operation, Add	11.51		
		For Dynamic Damper, Add	27.62		
		For 3 Hour Rated, Add	15.35		
		For Cap Of Damper Blades Outside Air Stream, Add	12.79		
23 33 13 16-0035	EA	20" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	120.60	21.68	
		For Spring Activated Horizontal Mount Operation, Add	12.47		
		For Dynamic Damper, Add	29.93		
		For 3 Hour Rated, Add	16.63		
		For Cap Of Damper Blades Outside Air Stream, Add	13.86		
23 33 13 16-0036	EA	20" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	135.07	23.70	
		For Spring Activated Horizontal Mount Operation, Add	14.39		
		For Dynamic Damper, Add	34.54		
		For 3 Hour Rated, Add	19.19		
		For Cap Of Damper Blades Outside Air Stream, Add	15.99		
23 33 13 16-0037	EA	20" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	144.18	25.60	
		For Spring Activated Horizontal Mount Operation, Add	15.11		
		For Dynamic Damper, Add	36.27		
		For 3 Hour Rated, Add	20.15		
		For Cap Of Damper Blades Outside Air Stream, Add	16.79		
23 33 13 16-0038	EA	20" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	153.30	27.61	
		For Spring Activated Horizontal Mount Operation, Add	15.83		
		For Dynamic Damper, Add	37.99		
		For 3 Hour Rated, Add	21.11		
		For Cap Of Damper Blades Outside Air Stream, Add	17.59		
23 33 13 16-0039	EA	20" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	163.48	29.63	
		For Spring Activated Horizontal Mount Operation, Add	16.79		
		For Dynamic Damper, Add	40.29		
		For 3 Hour Rated, Add	22.38		
		For Cap Of Damper Blades Outside Air Stream, Add	18.65		
23 33 13 16-0040	EA	20" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	173.66	31.52	
		For Spring Activated Horizontal Mount Operation, Add	17.74		
		For Dynamic Damper, Add	42.58		
		For 3 Hour Rated, Add	23.66		
		For Cap Of Damper Blades Outside Air Stream, Add	19.72		
23 33 13 16-0041	EA	24" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	112.53	19.79	
		For Spring Activated Horizontal Mount Operation, Add	11.99		
		For Dynamic Damper, Add	28.77		
		For 3 Hour Rated, Add	15.98		
		For Cap Of Damper Blades Outside Air Stream, Add	13.32		
23 33 13 16-0042	EA	24" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	124.87	21.68	
		For Spring Activated Horizontal Mount Operation, Add	13.43		
		For Dynamic Damper, Add	32.23		
		For 3 Hour Rated, Add	17.91		
		For Cap Of Damper Blades Outside Air Stream, Add	14.92		
23 33 13 16-0043	EA	24" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	135.07	23.70	
		For Spring Activated Horizontal Mount Operation, Add	14.39		
		For Dynamic Damper, Add	34.54		
		For 3 Hour Rated, Add	19.19		
		For Cap Of Damper Blades Outside Air Stream, Add	15.99		
23 33 13 16-0044	EA	24" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	147.37	25.60	
		For Spring Activated Horizontal Mount Operation, Add	15.83		
		For Dynamic Damper, Add	37.99		
		For 3 Hour Rated, Add	21.11		
		For Cap Of Damper Blades Outside Air Stream, Add	17.59		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0045 EA 24" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	156.50	27.61
For Spring Activated Horizontal Mount Operation, Add	16.55	
For Dynamic Damper, Add	39.72	
For 3 Hour Rated, Add	22.07	
For Cap Of Damper Blades Outside Air Stream, Add	18.39	
23 33 13 16-0046 EA 24" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	165.61	29.63
For Spring Activated Horizontal Mount Operation, Add	17.27	
For Dynamic Damper, Add	41.44	
For 3 Hour Rated, Add	23.02	
For Cap Of Damper Blades Outside Air Stream, Add	19.19	
23 33 13 16-0047 EA 24" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	177.93	31.52
For Spring Activated Horizontal Mount Operation, Add	18.70	
For Dynamic Damper, Add	44.89	
For 3 Hour Rated, Add	24.94	
For Cap Of Damper Blades Outside Air Stream, Add	20.78	
23 33 13 16-0048 EA 24" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	196.17	35.55
For Spring Activated Horizontal Mount Operation, Add	20.14	
For Dynamic Damper, Add	48.34	
For 3 Hour Rated, Add	26.86	
For Cap Of Damper Blades Outside Air Stream, Add	22.38	
23 33 13 16-0049 EA 24" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	216.56	39.46
For Spring Activated Horizontal Mount Operation, Add	22.06	
For Dynamic Damper, Add	52.95	
For 3 Hour Rated, Add	29.42	
For Cap Of Damper Blades Outside Air Stream, Add	24.52	
23 33 13 16-0050 EA 28" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	124.87	21.68
For Spring Activated Horizontal Mount Operation, Add	13.43	
For Dynamic Damper, Add	32.23	
For 3 Hour Rated, Add	17.91	
For Cap Of Damper Blades Outside Air Stream, Add	14.92	
23 33 13 16-0051 EA 28" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	135.07	23.70
For Spring Activated Horizontal Mount Operation, Add	14.39	
For Dynamic Damper, Add	34.54	
For 3 Hour Rated, Add	19.19	
For Cap Of Damper Blades Outside Air Stream, Add	15.99	
23 33 13 16-0052 EA 28" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	147.37	25.60
For Spring Activated Horizontal Mount Operation, Add	15.83	
For Dynamic Damper, Add	37.99	
For 3 Hour Rated, Add	21.11	
For Cap Of Damper Blades Outside Air Stream, Add	17.59	
23 33 13 16-0053 EA 28" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	157.56	27.61
For Spring Activated Horizontal Mount Operation, Add	16.79	
For Dynamic Damper, Add	40.29	
For 3 Hour Rated, Add	22.38	
For Cap Of Damper Blades Outside Air Stream, Add	18.65	
23 33 13 16-0054 EA 28" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	168.81	29.63
For Spring Activated Horizontal Mount Operation, Add	17.99	
For Dynamic Damper, Add	43.17	
For 3 Hour Rated, Add	23.98	
For Cap Of Damper Blades Outside Air Stream, Add	19.99	
23 33 13 16-0055 EA 28" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	180.05	31.52
For Spring Activated Horizontal Mount Operation, Add	19.18	
For Dynamic Damper, Add	46.04	
For 3 Hour Rated, Add	25.58	
For Cap Of Damper Blades Outside Air Stream, Add	21.31	
23 33 13 16-0056 EA 28" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	198.30	35.55
For Spring Activated Horizontal Mount Operation, Add	20.62	
For Dynamic Damper, Add	49.49	
For 3 Hour Rated, Add	27.50	
For Cap Of Damper Blades Outside Air Stream, Add	22.91	
23 33 13 16-0057 EA 28" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	216.56	39.46
For Spring Activated Horizontal Mount Operation, Add	22.06	
For Dynamic Damper, Add	52.95	
For 3 Hour Rated, Add	29.42	
For Cap Of Damper Blades Outside Air Stream, Add	24.52	
23 33 13 16-0058 EA 28" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	235.26	41.48
For Spring Activated Horizontal Mount Operation, Add	24.94	
For Dynamic Damper, Add	59.85	
For 3 Hour Rated, Add	33.25	
For Cap Of Damper Blades Outside Air Stream, Add	27.71	
23 33 13 16-0059 EA 28" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	257.78	45.38
For Spring Activated Horizontal Mount Operation, Add	27.34	
For Dynamic Damper, Add	65.61	
For 3 Hour Rated, Add	36.45	
For Cap Of Damper Blades Outside Air Stream, Add	30.38	
23 33 13 16-0060 EA 32" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	141.46	23.70
For Spring Activated Horizontal Mount Operation, Add	15.83	
For Dynamic Damper, Add	37.99	
For 3 Hour Rated, Add	21.11	
For Cap Of Damper Blades Outside Air Stream, Add	17.59	
23 33 13 16-0061 EA 32" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	149.49	25.60
For Spring Activated Horizontal Mount Operation, Add	16.31	
For Dynamic Damper, Add	39.13	
For 3 Hour Rated, Add	21.74	
For Cap Of Damper Blades Outside Air Stream, Add	18.12	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0062	EA		32" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	157.56	27.61
			For Spring Activated Horizontal Mount Operation, Add	16.79	
			For Dynamic Damper, Add	40.29	
			For 3 Hour Rated, Add	22.38	
			For Cap Of Damper Blades Outside Air Stream, Add	18.65	
23 33 13 16-0063	EA		32" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	167.73	29.63
			For Spring Activated Horizontal Mount Operation, Add	17.74	
			For Dynamic Damper, Add	42.58	
			For 3 Hour Rated, Add	23.66	
			For Cap Of Damper Blades Outside Air Stream, Add	19.72	
23 33 13 16-0064	EA		32" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	180.46	31.52
			For Spring Activated Horizontal Mount Operation, Add	19.27	
			For Dynamic Damper, Add	46.26	
			For 3 Hour Rated, Add	25.70	
			For Cap Of Damper Blades Outside Air Stream, Add	21.42	
23 33 13 16-0065	EA		32" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	198.30	35.55
			For Spring Activated Horizontal Mount Operation, Add	20.62	
			For Dynamic Damper, Add	49.49	
			For 3 Hour Rated, Add	27.50	
			For Cap Of Damper Blades Outside Air Stream, Add	22.91	
23 33 13 16-0066	EA		32" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	218.70	39.46
			For Spring Activated Horizontal Mount Operation, Add	22.55	
			For Dynamic Damper, Add	54.11	
			For 3 Hour Rated, Add	30.06	
			For Cap Of Damper Blades Outside Air Stream, Add	25.05	
23 33 13 16-0067	EA		32" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	239.07	43.37
			For Spring Activated Horizontal Mount Operation, Add	24.46	
			For Dynamic Damper, Add	58.71	
			For 3 Hour Rated, Add	32.62	
			For Cap Of Damper Blades Outside Air Stream, Add	27.18	
23 33 13 16-0068	EA		32" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	257.78	45.38
			For Spring Activated Horizontal Mount Operation, Add	27.34	
			For Dynamic Damper, Add	65.61	
			For 3 Hour Rated, Add	36.45	
			For Cap Of Damper Blades Outside Air Stream, Add	30.38	
23 33 13 16-0069	EA		32" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	282.18	48.58
			For Spring Activated Horizontal Mount Operation, Add	30.70	
			For Dynamic Damper, Add	73.67	
			For 3 Hour Rated, Add	40.93	
			For Cap Of Damper Blades Outside Air Stream, Add	34.11	
23 33 13 16-0070	EA		32" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	307.53	51.31
			For Spring Activated Horizontal Mount Operation, Add	34.53	
			For Dynamic Damper, Add	82.88	
			For 3 Hour Rated, Add	46.04	
			For Cap Of Damper Blades Outside Air Stream, Add	38.37	
23 33 13 16-0071	EA		36" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	153.76	25.60
			For Spring Activated Horizontal Mount Operation, Add	17.27	
			For Dynamic Damper, Add	41.44	
			For 3 Hour Rated, Add	23.02	
			For Cap Of Damper Blades Outside Air Stream, Add	19.19	
23 33 13 16-0072	EA		36" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	163.94	27.61
			For Spring Activated Horizontal Mount Operation, Add	18.22	
			For Dynamic Damper, Add	43.73	
			For 3 Hour Rated, Add	24.30	
			For Cap Of Damper Blades Outside Air Stream, Add	20.25	
23 33 13 16-0073	EA		36" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	174.12	29.63
			For Spring Activated Horizontal Mount Operation, Add	19.18	
			For Dynamic Damper, Add	46.04	
			For 3 Hour Rated, Add	25.58	
			For Cap Of Damper Blades Outside Air Stream, Add	21.31	
23 33 13 16-0074	EA		36" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	186.45	31.52
			For Spring Activated Horizontal Mount Operation, Add	20.62	
			For Dynamic Damper, Add	49.49	
			For 3 Hour Rated, Add	27.50	
			For Cap Of Damper Blades Outside Air Stream, Add	22.91	
23 33 13 16-0075	EA		36" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	201.52	35.55
			For Spring Activated Horizontal Mount Operation, Add	21.35	
			For Dynamic Damper, Add	51.23	
			For 3 Hour Rated, Add	28.46	
			For Cap Of Damper Blades Outside Air Stream, Add	23.72	
23 33 13 16-0076	EA		36" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	210.63	37.45
			For Spring Activated Horizontal Mount Operation, Add	22.06	
			For Dynamic Damper, Add	52.95	
			For 3 Hour Rated, Add	29.42	
			For Cap Of Damper Blades Outside Air Stream, Add	24.52	
23 33 13 16-0077	EA		36" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	239.07	43.37
			For Spring Activated Horizontal Mount Operation, Add	24.46	
			For Dynamic Damper, Add	58.71	
			For 3 Hour Rated, Add	32.62	
			For Cap Of Damper Blades Outside Air Stream, Add	27.18	
23 33 13 16-0078	EA		36" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	261.56	47.40
			For Spring Activated Horizontal Mount Operation, Add	26.86	
			For Dynamic Damper, Add	64.45	
			For 3 Hour Rated, Add	35.81	
			For Cap Of Damper Blades Outside Air Stream, Add	29.84	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0079 EA 36" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	222.46	48.94
For Spring Activated Horizontal Mount Operation, Add	16.99	
For Dynamic Damper, Add	40.78	
For 3 Hour Rated, Add	22.66	
For Cap Of Damper Blades Outside Air Stream, Add	18.88	
23 33 13 16-0080 EA 36" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	306.81	52.50
For Spring Activated Horizontal Mount Operation, Add	33.57	
For Dynamic Damper, Add	80.57	
For 3 Hour Rated, Add	44.76	
For Cap Of Damper Blades Outside Air Stream, Add	37.30	
23 33 13 16-0081 EA 36" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	330.02	55.22
For Spring Activated Horizontal Mount Operation, Add	36.93	
For Dynamic Damper, Add	88.62	
For 3 Hour Rated, Add	49.24	
For Cap Of Damper Blades Outside Air Stream, Add	41.03	
23 33 13 16-0082 EA 36" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	353.00	57.23
For Spring Activated Horizontal Mount Operation, Add	40.76	
For Dynamic Damper, Add	97.83	
For 3 Hour Rated, Add	54.35	
For Cap Of Damper Blades Outside Air Stream, Add	45.29	
23 33 13 16-0083 EA 40" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	161.81	29.63
For Spring Activated Horizontal Mount Operation, Add	17.74	
For Dynamic Damper, Add	42.58	
For 3 Hour Rated, Add	23.66	
For Cap Of Damper Blades Outside Air Stream, Add	19.72	
23 33 13 16-0084 EA 40" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	176.25	31.52
For Spring Activated Horizontal Mount Operation, Add	19.66	
For Dynamic Damper, Add	47.19	
For 3 Hour Rated, Add	26.21	
For Cap Of Damper Blades Outside Air Stream, Add	21.85	
23 33 13 16-0085 EA 40" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	184.32	33.53
For Spring Activated Horizontal Mount Operation, Add	20.14	
For Dynamic Damper, Add	48.34	
For 3 Hour Rated, Add	26.86	
For Cap Of Damper Blades Outside Air Stream, Add	22.38	
23 33 13 16-0086 EA 40" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	192.37	35.55
For Spring Activated Horizontal Mount Operation, Add	20.62	
For Dynamic Damper, Add	49.49	
For 3 Hour Rated, Add	27.50	
For Cap Of Damper Blades Outside Air Stream, Add	22.91	
23 33 13 16-0087 EA 40" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	211.69	37.45
For Spring Activated Horizontal Mount Operation, Add	22.30	
For Dynamic Damper, Add	53.52	
For 3 Hour Rated, Add	29.74	
For Cap Of Damper Blades Outside Air Stream, Add	24.78	
23 33 13 16-0088 EA 40" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	225.09	39.46
For Spring Activated Horizontal Mount Operation, Add	23.98	
For Dynamic Damper, Add	57.56	
For 3 Hour Rated, Add	31.98	
For Cap Of Damper Blades Outside Air Stream, Add	26.65	
23 33 13 16-0089 EA 40" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	251.39	45.38
For Spring Activated Horizontal Mount Operation, Add	25.90	
For Dynamic Damper, Add	62.16	
For 3 Hour Rated, Add	34.53	
For Cap Of Damper Blades Outside Air Stream, Add	28.78	
23 33 13 16-0090 EA 40" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	271.77	49.30
For Spring Activated Horizontal Mount Operation, Add	27.82	
For Dynamic Damper, Add	66.77	
For 3 Hour Rated, Add	37.09	
For Cap Of Damper Blades Outside Air Stream, Add	30.91	
23 33 13 16-0091 EA 40" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	294.03	52.50
For Spring Activated Horizontal Mount Operation, Add	30.70	
For Dynamic Damper, Add	73.67	
For 3 Hour Rated, Add	40.93	
For Cap Of Damper Blades Outside Air Stream, Add	34.11	
23 33 13 16-0092 EA 40" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	325.77	55.22
For Spring Activated Horizontal Mount Operation, Add	35.97	
For Dynamic Damper, Add	86.33	
For 3 Hour Rated, Add	47.96	
For Cap Of Damper Blades Outside Air Stream, Add	39.97	
23 33 13 16-0093 EA 40" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	348.03	58.42
For Spring Activated Horizontal Mount Operation, Add	38.85	
For Dynamic Damper, Add	93.23	
For 3 Hour Rated, Add	51.80	
For Cap Of Damper Blades Outside Air Stream, Add	43.16	
23 33 13 16-0094 EA 40" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	376.23	59.96
For Spring Activated Horizontal Mount Operation, Add	44.12	
For Dynamic Damper, Add	105.90	
For 3 Hour Rated, Add	58.83	
For Cap Of Damper Blades Outside Air Stream, Add	49.03	
23 33 13 16-0095 EA 40" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	407.03	63.16
For Spring Activated Horizontal Mount Operation, Add	48.92	
For Dynamic Damper, Add	117.41	
For 3 Hour Rated, Add	65.23	
For Cap Of Damper Blades Outside Air Stream, Add	54.36	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0096	EA		44" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	172.00	29.63
			For Spring Activated Horizontal Mount Operation, Add	18.70	
			For Dynamic Damper, Add	44.89	
			For 3 Hour Rated, Add	24.94	
			For Cap Of Damper Blades Outside Air Stream, Add	20.78	
23 33 13 16-0097	EA		44" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	186.45	31.52
			For Spring Activated Horizontal Mount Operation, Add	20.62	
			For Dynamic Damper, Add	49.49	
			For 3 Hour Rated, Add	27.50	
			For Cap Of Damper Blades Outside Air Stream, Add	22.91	
23 33 13 16-0098	EA		44" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	198.78	33.53
			For Spring Activated Horizontal Mount Operation, Add	22.06	
			For Dynamic Damper, Add	52.95	
			For 3 Hour Rated, Add	29.42	
			For Cap Of Damper Blades Outside Air Stream, Add	24.52	
23 33 13 16-0099	EA		44" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	206.85	35.55
			For Spring Activated Horizontal Mount Operation, Add	22.55	
			For Dynamic Damper, Add	54.11	
			For 3 Hour Rated, Add	30.06	
			For Cap Of Damper Blades Outside Air Stream, Add	25.05	
23 33 13 16-0100	EA		44" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	221.29	37.45
			For Spring Activated Horizontal Mount Operation, Add	24.46	
			For Dynamic Damper, Add	58.71	
			For 3 Hour Rated, Add	32.62	
			For Cap Of Damper Blades Outside Air Stream, Add	27.18	
23 33 13 16-0101	EA		44" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	235.75	39.46
			For Spring Activated Horizontal Mount Operation, Add	26.38	
			For Dynamic Damper, Add	63.32	
			For 3 Hour Rated, Add	35.18	
			For Cap Of Damper Blades Outside Air Stream, Add	29.31	
23 33 13 16-0102	EA		44" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	270.11	47.40
			For Spring Activated Horizontal Mount Operation, Add	28.78	
			For Dynamic Damper, Add	69.07	
			For 3 Hour Rated, Add	38.37	
			For Cap Of Damper Blades Outside Air Stream, Add	31.98	
23 33 13 16-0103	EA		44" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	292.60	51.31
			For Spring Activated Horizontal Mount Operation, Add	31.17	
			For Dynamic Damper, Add	74.82	
			For 3 Hour Rated, Add	41.57	
			For Cap Of Damper Blades Outside Air Stream, Add	34.64	
23 33 13 16-0104	EA		44" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	325.77	55.22
			For Spring Activated Horizontal Mount Operation, Add	35.97	
			For Dynamic Damper, Add	86.33	
			For 3 Hour Rated, Add	47.96	
			For Cap Of Damper Blades Outside Air Stream, Add	39.97	
23 33 13 16-0105	EA		44" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	356.81	59.25
			For Spring Activated Horizontal Mount Operation, Add	40.29	
			For Dynamic Damper, Add	96.69	
			For 3 Hour Rated, Add	53.72	
			For Cap Of Damper Blades Outside Air Stream, Add	44.77	
23 33 13 16-0106	EA		44" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	389.96	63.16
			For Spring Activated Horizontal Mount Operation, Add	45.08	
			For Dynamic Damper, Add	108.19	
			For 3 Hour Rated, Add	60.11	
			For Cap Of Damper Blades Outside Air Stream, Add	50.09	
23 33 13 16-0107	EA		44" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	415.07	65.05
			For Spring Activated Horizontal Mount Operation, Add	49.40	
			For Dynamic Damper, Add	118.55	
			For 3 Hour Rated, Add	65.86	
			For Cap Of Damper Blades Outside Air Stream, Add	54.89	
23 33 13 16-0108	EA		44" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	440.19	67.07
			For Spring Activated Horizontal Mount Operation, Add	53.71	
			For Dynamic Damper, Add	128.91	
			For 3 Hour Rated, Add	71.62	
			For Cap Of Damper Blades Outside Air Stream, Add	59.68	
23 33 13 16-0109	EA		44" x 44" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	465.31	69.08
			For Spring Activated Horizontal Mount Operation, Add	58.03	
			For Dynamic Damper, Add	139.28	
			For 3 Hour Rated, Add	77.38	
			For Cap Of Damper Blades Outside Air Stream, Add	64.48	
23 33 13 16-0110	EA		48" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	184.32	31.52
			For Spring Activated Horizontal Mount Operation, Add	20.14	
			For Dynamic Damper, Add	48.34	
			For 3 Hour Rated, Add	26.86	
			For Cap Of Damper Blades Outside Air Stream, Add	22.38	
23 33 13 16-0111	EA		48" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	198.78	33.53
			For Spring Activated Horizontal Mount Operation, Add	22.06	
			For Dynamic Damper, Add	52.95	
			For 3 Hour Rated, Add	29.42	
			For Cap Of Damper Blades Outside Air Stream, Add	24.52	
23 33 13 16-0112	EA		48" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	206.85	35.55
			For Spring Activated Horizontal Mount Operation, Add	22.55	
			For Dynamic Damper, Add	54.11	
			For 3 Hour Rated, Add	30.06	
			For Cap Of Damper Blades Outside Air Stream, Add	25.05	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0113 EA 48" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	225.09	39.46
For Spring Activated Horizontal Mount Operation, Add	23.98	
For Dynamic Damper, Add	57.56	
For 3 Hour Rated, Add	31.98	
For Cap Of Damper Blades Outside Air Stream, Add	26.65	
23 33 13 16-0114 EA 48" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	245.46	43.37
For Spring Activated Horizontal Mount Operation, Add	25.90	
For Dynamic Damper, Add	62.16	
For 3 Hour Rated, Add	34.53	
For Cap Of Damper Blades Outside Air Stream, Add	28.78	
23 33 13 16-0115 EA 48" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	265.84	47.40
For Spring Activated Horizontal Mount Operation, Add	27.82	
For Dynamic Damper, Add	66.77	
For 3 Hour Rated, Add	37.09	
For Cap Of Damper Blades Outside Air Stream, Add	30.91	
23 33 13 16-0116 EA 48" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	290.48	51.31
For Spring Activated Horizontal Mount Operation, Add	30.70	
For Dynamic Damper, Add	73.67	
For 3 Hour Rated, Add	40.93	
For Cap Of Damper Blades Outside Air Stream, Add	34.11	
23 33 13 16-0117 EA 48" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	315.11	55.22
For Spring Activated Horizontal Mount Operation, Add	33.57	
For Dynamic Damper, Add	80.57	
For 3 Hour Rated, Add	44.76	
For Cap Of Damper Blades Outside Air Stream, Add	37.30	
23 33 13 16-0118 EA 48" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	346.15	59.25
For Spring Activated Horizontal Mount Operation, Add	37.89	
For Dynamic Damper, Add	90.94	
For 3 Hour Rated, Add	50.52	
For Cap Of Damper Blades Outside Air Stream, Add	42.10	
23 33 13 16-0119 EA 48" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	381.43	63.16
For Spring Activated Horizontal Mount Operation, Add	43.16	
For Dynamic Damper, Add	103.59	
For 3 Hour Rated, Add	57.55	
For Cap Of Damper Blades Outside Air Stream, Add	47.96	
23 33 13 16-0120 EA 48" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	406.57	65.05
For Spring Activated Horizontal Mount Operation, Add	47.48	
For Dynamic Damper, Add	113.96	
For 3 Hour Rated, Add	63.31	
For Cap Of Damper Blades Outside Air Stream, Add	52.76	
23 33 13 16-0121 EA 48" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	438.05	67.07
For Spring Activated Horizontal Mount Operation, Add	53.23	
For Dynamic Damper, Add	127.76	
For 3 Hour Rated, Add	70.98	
For Cap Of Damper Blades Outside Air Stream, Add	59.15	
23 33 13 16-0122 EA 48" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	469.11	70.98
For Spring Activated Horizontal Mount Operation, Add	57.56	
For Dynamic Damper, Add	138.13	
For 3 Hour Rated, Add	76.74	
For Cap Of Damper Blades Outside Air Stream, Add	63.95	
23 33 13 16-0123 EA 48" x 44" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	500.60	73.00
For Spring Activated Horizontal Mount Operation, Add	63.31	
For Dynamic Damper, Add	151.94	
For 3 Hour Rated, Add	84.41	
For Cap Of Damper Blades Outside Air Stream, Add	70.34	
23 33 13 16-0124 EA 48" x 48" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	535.42	78.92
For Spring Activated Horizontal Mount Operation, Add	67.14	
For Dynamic Damper, Add	161.15	
For 3 Hour Rated, Add	89.53	
For Cap Of Damper Blades Outside Air Stream, Add	74.61	
23 33 13 16-0125 EA 52" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	196.65	33.53
For Spring Activated Horizontal Mount Operation, Add	21.58	
For Dynamic Damper, Add	51.80	
For 3 Hour Rated, Add	28.78	
For Cap Of Damper Blades Outside Air Stream, Add	23.98	
23 33 13 16-0126 EA 52" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	211.10	35.55
For Spring Activated Horizontal Mount Operation, Add	23.50	
For Dynamic Damper, Add	56.40	
For 3 Hour Rated, Add	31.34	
For Cap Of Damper Blades Outside Air Stream, Add	26.11	
23 33 13 16-0127 EA 52" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	231.48	39.46
For Spring Activated Horizontal Mount Operation, Add	25.42	
For Dynamic Damper, Add	61.01	
For 3 Hour Rated, Add	33.89	
For Cap Of Damper Blades Outside Air Stream, Add	28.25	
23 33 13 16-0128 EA 52" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	245.46	43.37
For Spring Activated Horizontal Mount Operation, Add	25.90	
For Dynamic Damper, Add	62.16	
For 3 Hour Rated, Add	34.53	
For Cap Of Damper Blades Outside Air Stream, Add	28.78	
23 33 13 16-0129 EA 52" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	266.91	47.40
For Spring Activated Horizontal Mount Operation, Add	28.06	
For Dynamic Damper, Add	67.34	
For 3 Hour Rated, Add	37.41	
For Cap Of Damper Blades Outside Air Stream, Add	31.18	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0130	EA	52" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	288.35	51.31
		For Spring Activated Horizontal Mount Operation, Add	30.22	
		For Dynamic Damper, Add	72.52	
		For 3 Hour Rated, Add	40.29	
		For Cap Of Damper Blades Outside Air Stream, Add	33.58	
23 33 13 16-0131	EA	52" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	312.99	55.22
		For Spring Activated Horizontal Mount Operation, Add	33.10	
		For Dynamic Damper, Add	79.43	
		For 3 Hour Rated, Add	44.13	
		For Cap Of Damper Blades Outside Air Stream, Add	36.77	
23 33 13 16-0132	EA	52" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	337.62	59.25
		For Spring Activated Horizontal Mount Operation, Add	35.97	
		For Dynamic Damper, Add	86.33	
		For 3 Hour Rated, Add	47.96	
		For Cap Of Damper Blades Outside Air Stream, Add	39.97	
23 33 13 16-0133	EA	52" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	368.66	63.16
		For Spring Activated Horizontal Mount Operation, Add	40.29	
		For Dynamic Damper, Add	96.69	
		For 3 Hour Rated, Add	53.72	
		For Cap Of Damper Blades Outside Air Stream, Add	44.77	
23 33 13 16-0134	EA	52" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	406.09	67.07
		For Spring Activated Horizontal Mount Operation, Add	46.04	
		For Dynamic Damper, Add	110.50	
		For 3 Hour Rated, Add	61.39	
		For Cap Of Damper Blades Outside Air Stream, Add	51.16	
23 33 13 16-0135	EA	52" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	433.31	69.08
		For Spring Activated Horizontal Mount Operation, Add	50.83	
		For Dynamic Damper, Add	122.00	
		For 3 Hour Rated, Add	67.78	
		For Cap Of Damper Blades Outside Air Stream, Add	56.48	
23 33 13 16-0136	EA	52" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	466.97	70.98
		For Spring Activated Horizontal Mount Operation, Add	57.07	
		For Dynamic Damper, Add	136.98	
		For 3 Hour Rated, Add	76.10	
		For Cap Of Damper Blades Outside Air Stream, Add	63.42	
23 33 13 16-0137	EA	52" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	504.38	75.01
		For Spring Activated Horizontal Mount Operation, Add	62.82	
		For Dynamic Damper, Add	150.78	
		For 3 Hour Rated, Add	83.77	
		For Cap Of Damper Blades Outside Air Stream, Add	69.81	
23 33 13 16-0138	EA	52" x 44" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	535.42	78.92
		For Spring Activated Horizontal Mount Operation, Add	67.14	
		For Dynamic Damper, Add	161.15	
		For 3 Hour Rated, Add	89.53	
		For Cap Of Damper Blades Outside Air Stream, Add	74.61	
23 33 13 16-0139	EA	52" x 48" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	578.77	84.85
		For Spring Activated Horizontal Mount Operation, Add	72.90	
		For Dynamic Damper, Add	174.96	
		For 3 Hour Rated, Add	97.20	
		For Cap Of Damper Blades Outside Air Stream, Add	81.00	
23 33 13 16-0140	EA	52" x 52" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	611.95	88.75
		For Spring Activated Horizontal Mount Operation, Add	77.70	
		For Dynamic Damper, Add	186.47	
		For 3 Hour Rated, Add	103.60	
		For Cap Of Damper Blades Outside Air Stream, Add	86.33	
23 33 13 16-0141	EA	56" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	206.85	35.55
		For Spring Activated Horizontal Mount Operation, Add	22.55	
		For Dynamic Damper, Add	54.11	
		For 3 Hour Rated, Add	30.06	
		For Cap Of Damper Blades Outside Air Stream, Add	25.05	
23 33 13 16-0142	EA	56" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	229.34	39.46
		For Spring Activated Horizontal Mount Operation, Add	24.94	
		For Dynamic Damper, Add	59.85	
		For 3 Hour Rated, Add	33.25	
		For Cap Of Damper Blades Outside Air Stream, Add	27.71	
23 33 13 16-0143	EA	56" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	247.60	43.37
		For Spring Activated Horizontal Mount Operation, Add	26.38	
		For Dynamic Damper, Add	63.32	
		For 3 Hour Rated, Add	35.18	
		For Cap Of Damper Blades Outside Air Stream, Add	29.31	
23 33 13 16-0144	EA	56" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	261.56	47.40
		For Spring Activated Horizontal Mount Operation, Add	26.86	
		For Dynamic Damper, Add	64.45	
		For 3 Hour Rated, Add	35.81	
		For Cap Of Damper Blades Outside Air Stream, Add	29.84	
23 33 13 16-0145	EA	56" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	285.15	51.31
		For Spring Activated Horizontal Mount Operation, Add	29.50	
		For Dynamic Damper, Add	70.79	
		For 3 Hour Rated, Add	39.33	
		For Cap Of Damper Blades Outside Air Stream, Add	32.78	
23 33 13 16-0146	EA	56" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	308.72	55.22
		For Spring Activated Horizontal Mount Operation, Add	32.13	
		For Dynamic Damper, Add	77.12	
		For 3 Hour Rated, Add	42.85	
		For Cap Of Damper Blades Outside Air Stream, Add	35.71	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0147 EA 56" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	332.29	59.25
For Spring Activated Horizontal Mount Operation, Add	34.77	
For Dynamic Damper, Add	83.45	
For 3 Hour Rated, Add	46.36	
For Cap Of Damper Blades Outside Air Stream, Add	38.64	
23 33 13 16-0148 EA 56" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	355.86	63.16
For Spring Activated Horizontal Mount Operation, Add	37.41	
For Dynamic Damper, Add	89.78	
For 3 Hour Rated, Add	49.88	
For Cap Of Damper Blades Outside Air Stream, Add	41.57	
23 33 13 16-0149 EA 56" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	393.29	67.07
For Spring Activated Horizontal Mount Operation, Add	43.16	
For Dynamic Damper, Add	103.59	
For 3 Hour Rated, Add	57.55	
For Cap Of Damper Blades Outside Air Stream, Add	47.96	
23 33 13 16-0150 EA 56" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	424.81	69.08
For Spring Activated Horizontal Mount Operation, Add	48.92	
For Dynamic Damper, Add	117.41	
For 3 Hour Rated, Add	65.23	
For Cap Of Damper Blades Outside Air Stream, Add	54.36	
23 33 13 16-0151 EA 56" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	454.18	70.98
For Spring Activated Horizontal Mount Operation, Add	54.20	
For Dynamic Damper, Add	130.07	
For 3 Hour Rated, Add	72.26	
For Cap Of Damper Blades Outside Air Stream, Add	60.22	
23 33 13 16-0152 EA 56" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	495.87	75.01
For Spring Activated Horizontal Mount Operation, Add	60.91	
For Dynamic Damper, Add	146.18	
For 3 Hour Rated, Add	81.21	
For Cap Of Damper Blades Outside Air Stream, Add	67.68	
23 33 13 16-0153 EA 56" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	533.29	78.92
For Spring Activated Horizontal Mount Operation, Add	66.67	
For Dynamic Damper, Add	160.00	
For 3 Hour Rated, Add	88.89	
For Cap Of Damper Blades Outside Air Stream, Add	74.07	
23 33 13 16-0154 EA 56" x 44" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	572.85	82.83
For Spring Activated Horizontal Mount Operation, Add	72.90	
For Dynamic Damper, Add	174.96	
For 3 Hour Rated, Add	97.20	
For Cap Of Damper Blades Outside Air Stream, Add	81.00	
23 33 13 16-0155 EA 56" x 48" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	606.02	86.86
For Spring Activated Horizontal Mount Operation, Add	77.70	
For Dynamic Damper, Add	186.47	
For 3 Hour Rated, Add	103.60	
For Cap Of Damper Blades Outside Air Stream, Add	86.33	
23 33 13 16-0156 EA 56" x 52" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	645.58	90.78
For Spring Activated Horizontal Mount Operation, Add	83.93	
For Dynamic Damper, Add	201.44	
For 3 Hour Rated, Add	111.91	
For Cap Of Damper Blades Outside Air Stream, Add	93.26	
23 33 13 16-0157 EA 56" x 56" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	685.14	94.68
For Spring Activated Horizontal Mount Operation, Add	90.17	
For Dynamic Damper, Add	216.40	
For 3 Hour Rated, Add	120.22	
For Cap Of Damper Blades Outside Air Stream, Add	100.19	
23 33 13 16-0158 EA 60" x 6" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	225.09	39.46
For Spring Activated Horizontal Mount Operation, Add	23.98	
For Dynamic Damper, Add	57.56	
For 3 Hour Rated, Add	31.98	
For Cap Of Damper Blades Outside Air Stream, Add	26.65	
23 33 13 16-0159 EA 60" x 8" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	247.60	43.37
For Spring Activated Horizontal Mount Operation, Add	26.38	
For Dynamic Damper, Add	63.32	
For 3 Hour Rated, Add	35.18	
For Cap Of Damper Blades Outside Air Stream, Add	29.31	
23 33 13 16-0160 EA 60" x 10" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	263.70	47.40
For Spring Activated Horizontal Mount Operation, Add	27.34	
For Dynamic Damper, Add	65.61	
For 3 Hour Rated, Add	36.45	
For Cap Of Damper Blades Outside Air Stream, Add	30.38	
23 33 13 16-0161 EA 60" x 12" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	277.69	51.31
For Spring Activated Horizontal Mount Operation, Add	27.82	
For Dynamic Damper, Add	66.77	
For 3 Hour Rated, Add	37.09	
For Cap Of Damper Blades Outside Air Stream, Add	30.91	
23 33 13 16-0162 EA 60" x 14" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	302.33	55.22
For Spring Activated Horizontal Mount Operation, Add	30.70	
For Dynamic Damper, Add	73.67	
For 3 Hour Rated, Add	40.93	
For Cap Of Damper Blades Outside Air Stream, Add	34.11	
23 33 13 16-0163 EA 60" x 16" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	326.96	59.25
For Spring Activated Horizontal Mount Operation, Add	33.57	
For Dynamic Damper, Add	80.57	
For 3 Hour Rated, Add	44.76	
For Cap Of Damper Blades Outside Air Stream, Add	37.30	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0164	EA		60" x 18" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	352.67	63.16
			For Spring Activated Horizontal Mount Operation, Add	36.69	
			For Dynamic Damper, Add	88.06	
			For 3 Hour Rated, Add	48.92	
			For Cap Of Damper Blades Outside Air Stream, Add	40.77	
23 33 13 16-0165	EA		60" x 20" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	378.38	67.07
			For Spring Activated Horizontal Mount Operation, Add	39.81	
			For Dynamic Damper, Add	95.54	
			For 3 Hour Rated, Add	53.08	
			For Cap Of Damper Blades Outside Air Stream, Add	44.23	
23 33 13 16-0166	EA		60" x 24" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	412.01	69.08
			For Spring Activated Horizontal Mount Operation, Add	46.04	
			For Dynamic Damper, Add	110.50	
			For 3 Hour Rated, Add	61.39	
			For Cap Of Damper Blades Outside Air Stream, Add	51.76	
23 33 13 16-0167	EA		60" x 28" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	443.51	70.98
			For Spring Activated Horizontal Mount Operation, Add	51.80	
			For Dynamic Damper, Add	124.31	
			For 3 Hour Rated, Add	69.06	
			For Cap Of Damper Blades Outside Air Stream, Add	57.55	
23 33 13 16-0168	EA		60" x 32" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	483.09	75.01
			For Spring Activated Horizontal Mount Operation, Add	58.03	
			For Dynamic Damper, Add	139.28	
			For 3 Hour Rated, Add	77.38	
			For Cap Of Damper Blades Outside Air Stream, Add	64.48	
23 33 13 16-0169	EA		60" x 36" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	522.64	78.92
			For Spring Activated Horizontal Mount Operation, Add	64.27	
			For Dynamic Damper, Add	154.25	
			For 3 Hour Rated, Add	85.69	
			For Cap Of Damper Blades Outside Air Stream, Add	71.41	
23 33 13 16-0170	EA		60" x 40" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	555.80	82.83
			For Spring Activated Horizontal Mount Operation, Add	69.06	
			For Dynamic Damper, Add	165.75	
			For 3 Hour Rated, Add	92.09	
			For Cap Of Damper Blades Outside Air Stream, Add	76.74	
23 33 13 16-0171	EA		60" x 44" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	601.74	86.86
			For Spring Activated Horizontal Mount Operation, Add	76.73	
			For Dynamic Damper, Add	184.16	
			For 3 Hour Rated, Add	102.31	
			For Cap Of Damper Blades Outside Air Stream, Add	85.26	
23 33 13 16-0172	EA		60" x 48" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	643.44	90.78
			For Spring Activated Horizontal Mount Operation, Add	83.45	
			For Dynamic Damper, Add	200.28	
			For 3 Hour Rated, Add	111.27	
			For Cap Of Damper Blades Outside Air Stream, Add	92.72	
23 33 13 16-0173	EA		60" x 52" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	685.14	94.68
			For Spring Activated Horizontal Mount Operation, Add	90.17	
			For Dynamic Damper, Add	216.40	
			For 3 Hour Rated, Add	120.22	
			For Cap Of Damper Blades Outside Air Stream, Add	100.19	
23 33 13 16-0174	EA		60" x 56" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	722.54	98.71
			For Spring Activated Horizontal Mount Operation, Add	95.92	
			For Dynamic Damper, Add	230.20	
			For 3 Hour Rated, Add	127.89	
			For Cap Of Damper Blades Outside Air Stream, Add	106.57	
23 33 13 16-0175	EA		60" x 60" Folding Curtain Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	760.00	102.63
			For Spring Activated Horizontal Mount Operation, Add	101.68	
			For Dynamic Damper, Add	244.03	
			For 3 Hour Rated, Add	135.57	
			For Cap Of Damper Blades Outside Air Stream, Add	112.98	
23 33 13 16-0176			Parallel Blade Louver Fire Damper (23 33 13 16)		
			Note: UL listed. 22 gauge galvanized steel construction with fusible link 160 F spring actuated 1-1/2 hour fire rating.		
23 33 13 16-0177	EA		6" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	101.22	13.16
			For Spring Activated Horizontal Mount Operation, Add	13.90	
			For Dynamic Damper, Add	33.35	
			For 3 Hour Rated, Add	18.53	
23 33 13 16-0178	EA		8" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	105.64	13.74
			For Spring Activated Horizontal Mount Operation, Add	14.49	
			For Dynamic Damper, Add	34.78	
			For 3 Hour Rated, Add	19.32	
23 33 13 16-0179	EA		8" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	108.55	13.86
			For Spring Activated Horizontal Mount Operation, Add	15.09	
			For Dynamic Damper, Add	36.22	
			For 3 Hour Rated, Add	20.12	
23 33 13 16-0180	EA		10" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	108.55	13.86
			For Spring Activated Horizontal Mount Operation, Add	15.09	
			For Dynamic Damper, Add	36.22	
			For 3 Hour Rated, Add	20.12	
23 33 13 16-0181	EA		10" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	112.42	14.23
			For Spring Activated Horizontal Mount Operation, Add	15.69	
			For Dynamic Damper, Add	37.67	
			For 3 Hour Rated, Add	20.93	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0182	EA	10" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	122.46	15.77
		For Spring Activated Horizontal Mount Operation, Add	16.89	
		For Dynamic Damper, Add	40.53	
		For 3 Hour Rated, Add	22.52	
23 33 13 16-0183	EA	12" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	112.42	14.23
		For Spring Activated Horizontal Mount Operation, Add	15.69	
		For Dynamic Damper, Add	37.67	
		For 3 Hour Rated, Add	20.93	
23 33 13 16-0184	EA	12" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	120.09	15.05
		For Spring Activated Horizontal Mount Operation, Add	16.89	
		For Dynamic Damper, Add	40.53	
		For 3 Hour Rated, Add	22.52	
23 33 13 16-0185	EA	12" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	125.13	15.77
		For Spring Activated Horizontal Mount Operation, Add	17.49	
		For Dynamic Damper, Add	41.97	
		For 3 Hour Rated, Add	23.32	
23 33 13 16-0186	EA	12" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	133.74	17.78
		For Spring Activated Horizontal Mount Operation, Add	18.09	
		For Dynamic Damper, Add	43.42	
		For 3 Hour Rated, Add	24.12	
23 33 13 16-0187	EA	14" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	118.77	15.05
		For Spring Activated Horizontal Mount Operation, Add	16.59	
		For Dynamic Damper, Add	39.82	
		For 3 Hour Rated, Add	22.12	
23 33 13 16-0188	EA	14" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	125.13	15.77
		For Spring Activated Horizontal Mount Operation, Add	17.49	
		For Dynamic Damper, Add	41.97	
		For 3 Hour Rated, Add	23.32	
23 33 13 16-0189	EA	14" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	130.18	16.59
		For Spring Activated Horizontal Mount Operation, Add	18.09	
		For Dynamic Damper, Add	43.42	
		For 3 Hour Rated, Add	24.12	
23 33 13 16-0190	EA	14" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	136.39	17.78
		For Spring Activated Horizontal Mount Operation, Add	18.69	
		For Dynamic Damper, Add	44.85	
		For 3 Hour Rated, Add	24.92	
23 33 13 16-0191	EA	14" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	148.98	19.79
		For Spring Activated Horizontal Mount Operation, Add	20.19	
		For Dynamic Damper, Add	48.45	
		For 3 Hour Rated, Add	26.92	
23 33 13 16-0192	EA	16" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	155.97	15.77
		For Spring Activated Horizontal Mount Operation, Add	24.43	
		For Dynamic Damper, Add	58.63	
		For 3 Hour Rated, Add	32.57	
23 33 13 16-0193	EA	16" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	162.51	16.94
		For Spring Activated Horizontal Mount Operation, Add	25.10	
		For Dynamic Damper, Add	60.24	
		For 3 Hour Rated, Add	33.47	
23 33 13 16-0194	EA	16" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	170.25	18.60
		For Spring Activated Horizontal Mount Operation, Add	25.78	
		For Dynamic Damper, Add	61.86	
		For 3 Hour Rated, Add	34.37	
23 33 13 16-0195	EA	16" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	176.77	19.79
		For Spring Activated Horizontal Mount Operation, Add	26.44	
		For Dynamic Damper, Add	63.46	
		For 3 Hour Rated, Add	35.26	
23 33 13 16-0196	EA	16" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	190.18	21.68
		For Spring Activated Horizontal Mount Operation, Add	28.13	
		For Dynamic Damper, Add	67.50	
		For 3 Hour Rated, Add	37.50	
23 33 13 16-0197	EA	16" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	203.58	23.70
		For Spring Activated Horizontal Mount Operation, Add	29.81	
		For Dynamic Damper, Add	71.53	
		For 3 Hour Rated, Add	39.74	
23 33 13 16-0198	EA	18" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	161.33	16.59
		For Spring Activated Horizontal Mount Operation, Add	25.10	
		For Dynamic Damper, Add	60.24	
		For 3 Hour Rated, Add	33.47	
23 33 13 16-0199	EA	18" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	169.37	17.78
		For Spring Activated Horizontal Mount Operation, Add	26.11	
		For Dynamic Damper, Add	62.66	
		For 3 Hour Rated, Add	34.81	
23 33 13 16-0200	EA	18" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	179.79	19.79
		For Spring Activated Horizontal Mount Operation, Add	27.12	
		For Dynamic Damper, Add	65.09	
		For 3 Hour Rated, Add	36.16	
23 33 13 16-0201	EA	18" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	193.17	21.68
		For Spring Activated Horizontal Mount Operation, Add	28.80	
		For Dynamic Damper, Add	69.11	
		For 3 Hour Rated, Add	38.40	
23 33 13 16-0202	EA	18" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	205.06	23.70
		For Spring Activated Horizontal Mount Operation, Add	30.14	
		For Dynamic Damper, Add	72.33	
		For 3 Hour Rated, Add	40.19	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0203	EA	18" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	218.44	25.60	
		For Spring Activated Horizontal Mount Operation, Add	31.82		
		For Dynamic Damper, Add	76.37		
		For 3 Hour Rated, Add	42.43		
23 33 13 16-0204	EA	18" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	228.83	27.61	
		For Spring Activated Horizontal Mount Operation, Add	32.82		
		For Dynamic Damper, Add	78.78		
		For 3 Hour Rated, Add	43.76		
23 33 13 16-0205	EA	20" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	167.89	17.78	
		For Spring Activated Horizontal Mount Operation, Add	25.78		
		For Dynamic Damper, Add	61.86		
		For 3 Hour Rated, Add	34.37		
23 33 13 16-0206	EA	20" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	179.76	19.79	
		For Spring Activated Horizontal Mount Operation, Add	27.11		
		For Dynamic Damper, Add	65.08		
		For 3 Hour Rated, Add	36.15		
23 33 13 16-0207	EA	20" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	191.67	21.68	
		For Spring Activated Horizontal Mount Operation, Add	28.46		
		For Dynamic Damper, Add	68.30		
		For 3 Hour Rated, Add	37.95		
23 33 13 16-0208	EA	20" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	209.56	23.70	
		For Spring Activated Horizontal Mount Operation, Add	31.15		
		For Dynamic Damper, Add	74.76		
		For 3 Hour Rated, Add	41.54		
23 33 13 16-0209	EA	20" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	219.94	25.60	
		For Spring Activated Horizontal Mount Operation, Add	32.16		
		For Dynamic Damper, Add	77.18		
		For 3 Hour Rated, Add	42.88		
23 33 13 16-0210	EA	20" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	230.33	27.61	
		For Spring Activated Horizontal Mount Operation, Add	33.16		
		For Dynamic Damper, Add	79.59		
		For 3 Hour Rated, Add	44.21		
23 33 13 16-0211	EA	20" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	242.22	29.63	
		For Spring Activated Horizontal Mount Operation, Add	34.50		
		For Dynamic Damper, Add	82.81		
		For 3 Hour Rated, Add	46.01		
23 33 13 16-0212	EA	20" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	254.10	31.52	
		For Spring Activated Horizontal Mount Operation, Add	35.84		
		For Dynamic Damper, Add	86.02		
		For 3 Hour Rated, Add	47.79		
23 33 13 16-0213	EA	24" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	207.21	19.79	
		For Spring Activated Horizontal Mount Operation, Add	33.29		
		For Dynamic Damper, Add	79.90		
		For 3 Hour Rated, Add	44.39		
23 33 13 16-0214	EA	24" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	222.10	21.68	
		For Spring Activated Horizontal Mount Operation, Add	35.31		
		For Dynamic Damper, Add	84.74		
		For 3 Hour Rated, Add	47.08		
23 33 13 16-0215	EA	24" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	234.01	23.70	
		For Spring Activated Horizontal Mount Operation, Add	36.65		
		For Dynamic Damper, Add	87.97		
		For 3 Hour Rated, Add	48.87		
23 33 13 16-0216	EA	24" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	248.85	25.60	
		For Spring Activated Horizontal Mount Operation, Add	38.66		
		For Dynamic Damper, Add	92.79		
		For 3 Hour Rated, Add	51.55		
23 33 13 16-0217	EA	24" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	259.27	27.61	
		For Spring Activated Horizontal Mount Operation, Add	39.67		
		For Dynamic Damper, Add	95.21		
		For 3 Hour Rated, Add	52.90		
23 33 13 16-0218	EA	24" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	269.65	29.63	
		For Spring Activated Horizontal Mount Operation, Add	40.68		
		For Dynamic Damper, Add	97.62		
		For 3 Hour Rated, Add	54.23		
23 33 13 16-0219	EA	24" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	284.53	31.52	
		For Spring Activated Horizontal Mount Operation, Add	42.69		
		For Dynamic Damper, Add	102.45		
		For 3 Hour Rated, Add	56.92		
23 33 13 16-0220	EA	24" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	305.33	35.55	
		For Spring Activated Horizontal Mount Operation, Add	44.70		
		For Dynamic Damper, Add	107.29		
		For 3 Hour Rated, Add	59.60		
23 33 13 16-0221	EA	24" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	329.13	39.46	
		For Spring Activated Horizontal Mount Operation, Add	47.39		
		For Dynamic Damper, Add	113.74		
		For 3 Hour Rated, Add	63.19		
23 33 13 16-0222	EA	28" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	222.10	21.68	
		For Spring Activated Horizontal Mount Operation, Add	35.31		
		For Dynamic Damper, Add	84.74		
		For 3 Hour Rated, Add	47.08		
23 33 13 16-0223	EA	28" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	234.01	23.70	
		For Spring Activated Horizontal Mount Operation, Add	36.65		
		For Dynamic Damper, Add	87.97		
		For 3 Hour Rated, Add	48.87		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0224	EA	28" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	248.85	25.60
		For Spring Activated Horizontal Mount Operation, Add	38.66	
		For Dynamic Damper, Add	92.79	
		For 3 Hour Rated, Add	51.55	
23 33 13 16-0225	EA	28" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	260.75	27.61
		For Spring Activated Horizontal Mount Operation, Add	40.01	
		For Dynamic Damper, Add	96.01	
		For 3 Hour Rated, Add	53.34	
23 33 13 16-0226	EA	28" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	274.14	29.63
		For Spring Activated Horizontal Mount Operation, Add	41.69	
		For Dynamic Damper, Add	100.05	
		For 3 Hour Rated, Add	55.58	
23 33 13 16-0227	EA	28" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	287.50	31.52
		For Spring Activated Horizontal Mount Operation, Add	43.36	
		For Dynamic Damper, Add	104.06	
		For 3 Hour Rated, Add	57.81	
23 33 13 16-0228	EA	28" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	308.31	35.55
		For Spring Activated Horizontal Mount Operation, Add	45.37	
		For Dynamic Damper, Add	108.90	
		For 3 Hour Rated, Add	60.50	
23 33 13 16-0229	EA	28" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	329.13	39.46
		For Spring Activated Horizontal Mount Operation, Add	47.39	
		For Dynamic Damper, Add	113.74	
		For 3 Hour Rated, Add	63.19	
23 33 13 16-0230	EA	28" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	352.95	41.48
		For Spring Activated Horizontal Mount Operation, Add	51.42	
		For Dynamic Damper, Add	123.41	
		For 3 Hour Rated, Add	68.56	
23 33 13 16-0231	EA	28" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	379.74	45.38
		For Spring Activated Horizontal Mount Operation, Add	54.78	
		For Dynamic Damper, Add	131.47	
		For 3 Hour Rated, Add	73.04	
23 33 13 16-0232	EA	32" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	242.94	23.70
		For Spring Activated Horizontal Mount Operation, Add	38.66	
		For Dynamic Damper, Add	92.79	
		For 3 Hour Rated, Add	51.55	
23 33 13 16-0233	EA	32" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	251.82	25.60
		For Spring Activated Horizontal Mount Operation, Add	39.33	
		For Dynamic Damper, Add	94.39	
		For 3 Hour Rated, Add	52.44	
23 33 13 16-0234	EA	32" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	260.75	27.61
		For Spring Activated Horizontal Mount Operation, Add	40.01	
		For Dynamic Damper, Add	96.01	
		For 3 Hour Rated, Add	53.34	
23 33 13 16-0235	EA	32" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	272.62	29.63
		For Spring Activated Horizontal Mount Operation, Add	41.34	
		For Dynamic Damper, Add	99.23	
		For 3 Hour Rated, Add	55.13	
23 33 13 16-0236	EA	32" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	288.07	31.52
		For Spring Activated Horizontal Mount Operation, Add	43.49	
		For Dynamic Damper, Add	104.37	
		For 3 Hour Rated, Add	57.98	
23 33 13 16-0237	EA	32" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	308.31	35.55
		For Spring Activated Horizontal Mount Operation, Add	45.37	
		For Dynamic Damper, Add	108.90	
		For 3 Hour Rated, Add	60.50	
23 33 13 16-0238	EA	32" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	332.13	39.46
		For Spring Activated Horizontal Mount Operation, Add	48.07	
		For Dynamic Damper, Add	115.36	
		For 3 Hour Rated, Add	64.09	
23 33 13 16-0239	EA	32" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	355.91	43.37
		For Spring Activated Horizontal Mount Operation, Add	50.75	
		For Dynamic Damper, Add	121.80	
		For 3 Hour Rated, Add	67.67	
23 33 13 16-0240	EA	32" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	379.74	45.38
		For Spring Activated Horizontal Mount Operation, Add	54.78	
		For Dynamic Damper, Add	131.47	
		For 3 Hour Rated, Add	73.04	
23 33 13 16-0241	EA	32" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	410.10	48.58
		For Spring Activated Horizontal Mount Operation, Add	59.48	
		For Dynamic Damper, Add	142.75	
		For 3 Hour Rated, Add	79.31	
23 33 13 16-0242	EA	32" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	442.27	51.31
		For Spring Activated Horizontal Mount Operation, Add	64.85	
		For Dynamic Damper, Add	155.64	
		For 3 Hour Rated, Add	86.47	
23 33 13 16-0243	EA	36" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	273.16	25.60
		For Spring Activated Horizontal Mount Operation, Add	44.13	
		For Dynamic Damper, Add	105.92	
		For 3 Hour Rated, Add	58.84	
23 33 13 16-0244	EA	36" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	285.89	27.61
		For Spring Activated Horizontal Mount Operation, Add	45.66	
		For Dynamic Damper, Add	109.59	
		For 3 Hour Rated, Add	60.88	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0245	EA		36" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	298.62	29.63
			For Spring Activated Horizontal Mount Operation, Add	47.19	
			For Dynamic Damper, Add	113.27	
			For 3 Hour Rated, Add	62.93	
23 33 13 16-0246	EA		36" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	314.80	31.52
			For Spring Activated Horizontal Mount Operation, Add	49.50	
			For Dynamic Damper, Add	118.80	
			For 3 Hour Rated, Add	66.00	
23 33 13 16-0247	EA		36" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	331.79	35.55
			For Spring Activated Horizontal Mount Operation, Add	50.66	
			For Dynamic Damper, Add	121.58	
			For 3 Hour Rated, Add	67.54	
23 33 13 16-0248	EA		36" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	342.82	37.45
			For Spring Activated Horizontal Mount Operation, Add	51.81	
			For Dynamic Damper, Add	124.34	
			For 3 Hour Rated, Add	69.08	
23 33 13 16-0249	EA		36" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	377.65	43.37
			For Spring Activated Horizontal Mount Operation, Add	55.64	
			For Dynamic Damper, Add	133.54	
			For 3 Hour Rated, Add	74.19	
23 33 13 16-0250	EA		36" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	406.54	47.40
			For Spring Activated Horizontal Mount Operation, Add	59.48	
			For Dynamic Damper, Add	142.74	
			For 3 Hour Rated, Add	79.30	
23 33 13 16-0251	EA		36" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	431.75	48.94
			For Spring Activated Horizontal Mount Operation, Add	64.08	
			For Dynamic Damper, Add	153.80	
			For 3 Hour Rated, Add	85.44	
23 33 13 16-0252	EA		36" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	469.68	52.50
			For Spring Activated Horizontal Mount Operation, Add	70.22	
			For Dynamic Damper, Add	168.52	
			For 3 Hour Rated, Add	93.62	
23 33 13 16-0253	EA		36" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	501.84	55.22
			For Spring Activated Horizontal Mount Operation, Add	75.59	
			For Dynamic Damper, Add	181.41	
			For 3 Hour Rated, Add	100.78	
23 33 13 16-0254	EA		36" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	535.06	57.23
			For Spring Activated Horizontal Mount Operation, Add	81.73	
			For Dynamic Damper, Add	196.14	
			For 3 Hour Rated, Add	108.97	
23 33 13 16-0255	EA		40" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	306.93	29.63
			For Spring Activated Horizontal Mount Operation, Add	50.40	
			For Dynamic Damper, Add	120.95	
			For 3 Hour Rated, Add	67.19	
23 33 13 16-0256	EA		40" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	326.49	31.52
			For Spring Activated Horizontal Mount Operation, Add	53.46	
			For Dynamic Damper, Add	128.31	
			For 3 Hour Rated, Add	71.29	
23 33 13 16-0257	EA		40" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	335.83	33.53
			For Spring Activated Horizontal Mount Operation, Add	54.23	
			For Dynamic Damper, Add	130.16	
			For 3 Hour Rated, Add	72.31	
23 33 13 16-0258	EA		40" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	345.17	35.55
			For Spring Activated Horizontal Mount Operation, Add	55.00	
			For Dynamic Damper, Add	132.00	
			For 3 Hour Rated, Add	73.34	
23 33 13 16-0259	EA		40" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	368.97	37.45
			For Spring Activated Horizontal Mount Operation, Add	57.69	
			For Dynamic Damper, Add	138.46	
			For 3 Hour Rated, Add	76.92	
23 33 13 16-0260	EA		40" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	386.83	39.46
			For Spring Activated Horizontal Mount Operation, Add	60.37	
			For Dynamic Damper, Add	144.90	
			For 3 Hour Rated, Add	80.50	
23 33 13 16-0261	EA		40" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	418.25	45.38
			For Spring Activated Horizontal Mount Operation, Add	63.44	
			For Dynamic Damper, Add	152.26	
			For 3 Hour Rated, Add	84.59	
23 33 13 16-0262	EA		40" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	443.75	49.30
			For Spring Activated Horizontal Mount Operation, Add	66.51	
			For Dynamic Damper, Add	159.63	
			For 3 Hour Rated, Add	88.69	
23 33 13 16-0263	EA		40" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	473.69	52.50
			For Spring Activated Horizontal Mount Operation, Add	71.12	
			For Dynamic Damper, Add	170.69	
			For 3 Hour Rated, Add	94.83	
23 33 13 16-0264	EA		40" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	519.50	55.22
			For Spring Activated Horizontal Mount Operation, Add	79.56	
			For Dynamic Damper, Add	190.94	
			For 3 Hour Rated, Add	106.08	
23 33 13 16-0265	EA		40" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	549.42	58.42
			For Spring Activated Horizontal Mount Operation, Add	84.16	
			For Dynamic Damper, Add	201.98	
			For 3 Hour Rated, Add	112.21	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0266	EA	40" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	591.70	59.96
		For Spring Activated Horizontal Mount Operation, Add	92.61	
		For Dynamic Damper, Add	222.25	
		For 3 Hour Rated, Add	123.47	
23 33 13 16-0267	EA	40" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	635.27	63.16
		For Spring Activated Horizontal Mount Operation, Add	100.28	
		For Dynamic Damper, Add	240.66	
		For 3 Hour Rated, Add	133.70	
23 33 13 16-0268	EA	44" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	319.68	29.63
		For Spring Activated Horizontal Mount Operation, Add	51.93	
		For Dynamic Damper, Add	124.64	
		For 3 Hour Rated, Add	69.24	
23 33 13 16-0269	EA	44" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	339.25	31.52
		For Spring Activated Horizontal Mount Operation, Add	55.00	
		For Dynamic Damper, Add	132.00	
		For 3 Hour Rated, Add	73.34	
23 33 13 16-0270	EA	44" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	355.42	33.53
		For Spring Activated Horizontal Mount Operation, Add	57.31	
		For Dynamic Damper, Add	137.54	
		For 3 Hour Rated, Add	76.41	
23 33 13 16-0271	EA	44" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	364.76	35.55
		For Spring Activated Horizontal Mount Operation, Add	58.07	
		For Dynamic Damper, Add	139.38	
		For 3 Hour Rated, Add	77.43	
23 33 13 16-0272	EA	44" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	384.32	37.45
		For Spring Activated Horizontal Mount Operation, Add	61.14	
		For Dynamic Damper, Add	146.75	
		For 3 Hour Rated, Add	81.53	
23 33 13 16-0273	EA	44" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	403.90	39.46
		For Spring Activated Horizontal Mount Operation, Add	64.22	
		For Dynamic Damper, Add	154.12	
		For 3 Hour Rated, Add	85.62	
23 33 13 16-0274	EA	44" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	444.65	47.40
		For Spring Activated Horizontal Mount Operation, Add	68.05	
		For Dynamic Damper, Add	163.32	
		For 3 Hour Rated, Add	90.74	
23 33 13 16-0275	EA	44" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	473.53	51.31
		For Spring Activated Horizontal Mount Operation, Add	71.88	
		For Dynamic Damper, Add	172.52	
		For 3 Hour Rated, Add	95.84	
23 33 13 16-0276	EA	44" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	519.50	55.22
		For Spring Activated Horizontal Mount Operation, Add	79.56	
		For Dynamic Damper, Add	190.94	
		For 3 Hour Rated, Add	106.08	
23 33 13 16-0277	EA	44" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	562.04	59.25
		For Spring Activated Horizontal Mount Operation, Add	86.47	
		For Dynamic Damper, Add	207.52	
		For 3 Hour Rated, Add	115.29	
23 33 13 16-0278	EA	44" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	607.97	63.16
		For Spring Activated Horizontal Mount Operation, Add	94.13	
		For Dynamic Damper, Add	225.92	
		For 3 Hour Rated, Add	125.51	
23 33 13 16-0279	EA	44" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	644.59	65.05
		For Spring Activated Horizontal Mount Operation, Add	101.04	
		For Dynamic Damper, Add	242.49	
		For 3 Hour Rated, Add	134.72	
23 33 13 16-0280	EA	44" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	681.23	67.07
		For Spring Activated Horizontal Mount Operation, Add	107.95	
		For Dynamic Damper, Add	259.08	
		For 3 Hour Rated, Add	143.93	
23 33 13 16-0281	EA	44" x 44" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	717.86	69.08
		For Spring Activated Horizontal Mount Operation, Add	114.86	
		For Dynamic Damper, Add	275.66	
		For 3 Hour Rated, Add	153.14	
23 33 13 16-0282	EA	48" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	335.83	31.52
		For Spring Activated Horizontal Mount Operation, Add	54.23	
		For Dynamic Damper, Add	130.16	
		For 3 Hour Rated, Add	72.31	
23 33 13 16-0283	EA	48" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	355.42	33.53
		For Spring Activated Horizontal Mount Operation, Add	57.31	
		For Dynamic Damper, Add	137.54	
		For 3 Hour Rated, Add	76.41	
23 33 13 16-0284	EA	48" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	364.76	35.55
		For Spring Activated Horizontal Mount Operation, Add	58.07	
		For Dynamic Damper, Add	139.38	
		For 3 Hour Rated, Add	77.43	
23 33 13 16-0285	EA	48" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	386.83	39.46
		For Spring Activated Horizontal Mount Operation, Add	60.37	
		For Dynamic Damper, Add	144.90	
		For 3 Hour Rated, Add	80.50	
23 33 13 16-0286	EA	48" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	412.32	43.37
		For Spring Activated Horizontal Mount Operation, Add	63.44	
		For Dynamic Damper, Add	152.26	
		For 3 Hour Rated, Add	84.59	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0287	EA	48" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	437.82	47.40	
		For Spring Activated Horizontal Mount Operation, Add	66.51		
		For Dynamic Damper, Add	159.63		
		For 3 Hour Rated, Add	88.69		
23 33 13 16-0288	EA	48" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	470.14	51.31	
		For Spring Activated Horizontal Mount Operation, Add	71.12		
		For Dynamic Damper, Add	170.69		
		For 3 Hour Rated, Add	94.83		
23 33 13 16-0289	EA	48" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	502.43	55.22	
		For Spring Activated Horizontal Mount Operation, Add	75.72		
		For Dynamic Damper, Add	181.73		
		For 3 Hour Rated, Add	100.96		
23 33 13 16-0290	EA	48" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	544.99	59.25	
		For Spring Activated Horizontal Mount Operation, Add	82.63		
		For Dynamic Damper, Add	198.31		
		For 3 Hour Rated, Add	110.17		
23 33 13 16-0291	EA	48" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	594.33	63.16	
		For Spring Activated Horizontal Mount Operation, Add	91.06		
		For Dynamic Damper, Add	218.55		
		For 3 Hour Rated, Add	121.42		
23 33 13 16-0292	EA	48" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	630.98	65.05	
		For Spring Activated Horizontal Mount Operation, Add	97.98		
		For Dynamic Damper, Add	235.14		
		For 3 Hour Rated, Add	130.64		
23 33 13 16-0293	EA	48" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	677.81	67.07	
		For Spring Activated Horizontal Mount Operation, Add	107.18		
		For Dynamic Damper, Add	257.23		
		For 3 Hour Rated, Add	142.91		
23 33 13 16-0294	EA	48" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	720.39	70.98	
		For Spring Activated Horizontal Mount Operation, Add	114.09		
		For Dynamic Damper, Add	273.82		
		For 3 Hour Rated, Add	152.12		
23 33 13 16-0295	EA	48" x 44" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	767.22	73.00	
		For Spring Activated Horizontal Mount Operation, Add	123.30		
		For Dynamic Damper, Add	295.91		
		For 3 Hour Rated, Add	164.40		
23 33 13 16-0296	EA	48" x 48" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	812.28	78.92	
		For Spring Activated Horizontal Mount Operation, Add	129.44		
		For Dynamic Damper, Add	310.65		
		For 3 Hour Rated, Add	172.58		
23 33 13 16-0297	EA	52" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	352.00	33.53	
		For Spring Activated Horizontal Mount Operation, Add	56.54		
		For Dynamic Damper, Add	135.69		
		For 3 Hour Rated, Add	75.38		
23 33 13 16-0298	EA	52" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	371.57	35.55	
		For Spring Activated Horizontal Mount Operation, Add	59.61		
		For Dynamic Damper, Add	143.06		
		For 3 Hour Rated, Add	79.48		
23 33 13 16-0299	EA	52" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	397.07	39.46	
		For Spring Activated Horizontal Mount Operation, Add	62.68		
		For Dynamic Damper, Add	150.43		
		For 3 Hour Rated, Add	83.57		
23 33 13 16-0300	EA	52" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	412.32	43.37	
		For Spring Activated Horizontal Mount Operation, Add	63.44		
		For Dynamic Damper, Add	152.26		
		For 3 Hour Rated, Add	84.59		
23 33 13 16-0301	EA	52" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	439.54	47.40	
		For Spring Activated Horizontal Mount Operation, Add	66.90		
		For Dynamic Damper, Add	160.56		
		For 3 Hour Rated, Add	89.20		
23 33 13 16-0302	EA	52" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	466.72	51.31	
		For Spring Activated Horizontal Mount Operation, Add	70.35		
		For Dynamic Damper, Add	168.84		
		For 3 Hour Rated, Add	93.80		
23 33 13 16-0303	EA	52" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	499.04	55.22	
		For Spring Activated Horizontal Mount Operation, Add	74.96		
		For Dynamic Damper, Add	179.90		
		For 3 Hour Rated, Add	99.94		
23 33 13 16-0304	EA	52" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	531.35	59.25	
		For Spring Activated Horizontal Mount Operation, Add	79.56		
		For Dynamic Damper, Add	190.94		
		For 3 Hour Rated, Add	106.08		
23 33 13 16-0305	EA	52" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	573.89	63.16	
		For Spring Activated Horizontal Mount Operation, Add	86.47		
		For Dynamic Damper, Add	207.52		
		For 3 Hour Rated, Add	115.29		
23 33 13 16-0306	EA	52" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	626.66	67.07	
		For Spring Activated Horizontal Mount Operation, Add	95.67		
		For Dynamic Damper, Add	229.61		
		For 3 Hour Rated, Add	127.56		
23 33 13 16-0307	EA	52" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	666.68	69.08	
		For Spring Activated Horizontal Mount Operation, Add	103.34		
		For Dynamic Damper, Add	248.02		
		For 3 Hour Rated, Add	137.79		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0308	EA	52" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	716.96	70.98
		For Spring Activated Horizontal Mount Operation, Add	113.32	
		For Dynamic Damper, Add	271.97	
		For 3 Hour Rated, Add	151.10	
23 33 13 16-0309	EA	52" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	769.71	75.01
		For Spring Activated Horizontal Mount Operation, Add	122.52	
		For Dynamic Damper, Add	294.06	
		For 3 Hour Rated, Add	163.37	
23 33 13 16-0310	EA	52" x 44" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	812.28	78.92
		For Spring Activated Horizontal Mount Operation, Add	129.44	
		For Dynamic Damper, Add	310.65	
		For 3 Hour Rated, Add	172.58	
23 33 13 16-0311	EA	52" x 48" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	870.96	84.85
		For Spring Activated Horizontal Mount Operation, Add	138.64	
		For Dynamic Damper, Add	332.74	
		For 3 Hour Rated, Add	184.86	
23 33 13 16-0312	EA	52" x 52" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	916.93	88.75
		For Spring Activated Horizontal Mount Operation, Add	146.32	
		For Dynamic Damper, Add	351.16	
		For 3 Hour Rated, Add	195.09	
23 33 13 16-0313	EA	56" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	364.76	35.55
		For Spring Activated Horizontal Mount Operation, Add	58.07	
		For Dynamic Damper, Add	139.38	
		For 3 Hour Rated, Add	77.43	
23 33 13 16-0314	EA	56" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	393.64	39.46
		For Spring Activated Horizontal Mount Operation, Add	61.91	
		For Dynamic Damper, Add	148.58	
		For 3 Hour Rated, Add	82.54	
23 33 13 16-0315	EA	56" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	415.75	43.37
		For Spring Activated Horizontal Mount Operation, Add	64.22	
		For Dynamic Damper, Add	154.12	
		For 3 Hour Rated, Add	85.62	
23 33 13 16-0316	EA	56" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	430.99	47.40
		For Spring Activated Horizontal Mount Operation, Add	64.98	
		For Dynamic Damper, Add	155.95	
		For 3 Hour Rated, Add	86.64	
23 33 13 16-0317	EA	56" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	461.61	51.31
		For Spring Activated Horizontal Mount Operation, Add	69.20	
		For Dynamic Damper, Add	166.08	
		For 3 Hour Rated, Add	92.27	
23 33 13 16-0318	EA	56" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	492.21	55.22
		For Spring Activated Horizontal Mount Operation, Add	73.42	
		For Dynamic Damper, Add	176.21	
		For 3 Hour Rated, Add	97.89	
23 33 13 16-0319	EA	56" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	522.82	59.25
		For Spring Activated Horizontal Mount Operation, Add	77.64	
		For Dynamic Damper, Add	186.34	
		For 3 Hour Rated, Add	103.52	
23 33 13 16-0320	EA	56" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	553.42	63.16
		For Spring Activated Horizontal Mount Operation, Add	81.86	
		For Dynamic Damper, Add	196.46	
		For 3 Hour Rated, Add	109.15	
23 33 13 16-0321	EA	56" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	606.19	67.07
		For Spring Activated Horizontal Mount Operation, Add	91.06	
		For Dynamic Damper, Add	218.55	
		For 3 Hour Rated, Add	121.42	
23 33 13 16-0322	EA	56" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	653.05	69.08
		For Spring Activated Horizontal Mount Operation, Add	100.28	
		For Dynamic Damper, Add	240.66	
		For 3 Hour Rated, Add	133.70	
23 33 13 16-0323	EA	56" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	696.49	70.98
		For Spring Activated Horizontal Mount Operation, Add	108.72	
		For Dynamic Damper, Add	260.92	
		For 3 Hour Rated, Add	144.95	
23 33 13 16-0324	EA	56" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	756.10	75.01
		For Spring Activated Horizontal Mount Operation, Add	119.46	
		For Dynamic Damper, Add	286.71	
		For 3 Hour Rated, Add	159.28	
23 33 13 16-0325	EA	56" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	808.85	78.92
		For Spring Activated Horizontal Mount Operation, Add	128.67	
		For Dynamic Damper, Add	308.80	
		For 3 Hour Rated, Add	171.56	
23 33 13 16-0326	EA	56" x 44" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	865.04	82.83
		For Spring Activated Horizontal Mount Operation, Add	138.64	
		For Dynamic Damper, Add	332.74	
		For 3 Hour Rated, Add	184.86	
23 33 13 16-0327	EA	56" x 48" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	911.00	86.86
		For Spring Activated Horizontal Mount Operation, Add	146.32	
		For Dynamic Damper, Add	351.16	
		For 3 Hour Rated, Add	195.09	
23 33 13 16-0328	EA	56" x 52" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	967.19	90.78
		For Spring Activated Horizontal Mount Operation, Add	156.29	
		For Dynamic Damper, Add	375.11	
		For 3 Hour Rated, Add	208.39	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0329	EA		56" x 56" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	1,023.38 166.27 399.05 221.69	94.68
23 33 13 16-0330	EA		60" x 6" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	386.83 60.37 144.90 80.50	39.46
23 33 13 16-0331	EA		60" x 8" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	415.75 64.22 154.12 85.62	43.37
23 33 13 16-0332	EA		60" x 10" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	434.39 65.74 157.78 87.66	47.40
23 33 13 16-0333	EA		60" x 12" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	449.67 66.51 159.63 88.69	51.31
23 33 13 16-0334	EA		60" x 14" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	481.99 71.12 170.69 94.83	55.22
23 33 13 16-0335	EA		60" x 16" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	514.28 75.72 181.73 100.96	59.25
23 33 13 16-0336	EA		60" x 18" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	548.30 80.71 193.70 107.61	63.16
23 33 13 16-0337	EA		60" x 20" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	582.33 85.70 205.67 114.26	67.07
23 33 13 16-0338	EA		60" x 24" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	632.58 95.67 229.61 127.56	69.08
23 33 13 16-0339	EA		60" x 28" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	679.44 104.88 251.71 139.84	70.98
23 33 13 16-0340	EA		60" x 32" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	735.64 114.86 275.66 153.14	75.01
23 33 13 16-0341	EA		60" x 36" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	791.82 124.83 299.60 166.45	78.92
23 33 13 16-0342	EA		60" x 40" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	837.77 132.51 318.02 176.68	82.83
23 33 13 16-0343	EA		60" x 44" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	904.18 144.78 347.48 193.04	86.86
23 33 13 16-0344	EA		60" x 48" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	963.77 155.52 373.26 207.37	90.78
23 33 13 16-0345	EA		60" x 52" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	1,023.38 166.27 399.05 221.69	94.68
23 33 13 16-0346	EA		60" x 56" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	1,076.12 175.47 421.13 233.96	98.71
23 33 13 16-0347	EA		60" x 60" Louver Type Fire Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Spring Activated Horizontal Mount Operation, Add For Dynamic Damper, Add For 3 Hour Rated, Add	1,128.94 184.69 443.25 246.25	102.63
23 33 13 16-0348			Round 2 Hour Fire Damper (23 33 13 16)		
23 33 13 16-0349	EA		4" Round 2 Hour Fire Damper	126.52	23.70
23 33 13 16-0350	EA		5" Round 2 Hour Fire Damper	132.19	23.70
23 33 13 16-0351	EA		6" Round 2 Hour Fire Damper	155.65	26.90
23 33 13 16-0352	EA		7" Round 2 Hour Fire Damper	161.81	26.90
23 33 13 16-0353	EA		8" Round 2 Hour Fire Damper	194.94	29.63
23 33 13 16-0354	EA		9" Round 2 Hour Fire Damper	211.89	29.63

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 16-0355	EA	10" Round 2 Hour Fire Damper	235.47	32.94
23 33 13 16-0356	EA	12" Round 2 Hour Fire Damper	264.49	37.09
23 33 13 16-0357	EA	14" Round 2 Hour Fire Damper	300.54	42.30
23 33 13 16-0358		Round 4 Hour Fire Damper (23 33 13 16)		
23 33 13 16-0359	EA	4" Round 4 Hour Fire Damper	142.48	26.90
23 33 13 16-0360	EA	5" Round 4 Hour Fire Damper	157.92	26.90
23 33 13 16-0361	EA	6" Round 4 Hour Fire Damper	178.96	29.63
23 33 13 16-0362	EA	7" Round 4 Hour Fire Damper	198.88	29.63
23 33 13 16-0363	EA	8" Round 4 Hour Fire Damper	225.43	32.94
23 33 13 16-0364	EA	9" Round 4 Hour Fire Damper	237.57	32.94
23 33 13 16-0365	EA	10" Round 4 Hour Fire Damper	264.86	37.09
23 33 13 16-0366	EA	12" Round 4 Hour Fire Damper	292.82	42.30
23 33 13 16-0367	EA	14" Round 4 Hour Fire Damper	341.63	49.41
23 33 13 19		Smoke-Control Dampers (23 33 13)		
23 33 13 19-0001		Combination Smoke/Fire Damper (23 33 13 19)		
		Note: Leakage class I with Firestat UL 555S air foil blades.		
23 33 13 19-0002	EA	6" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	582.19	19.73
		For Dynamic Damper, Add	282.41	
		For 3 Hour Rated, Add	156.90	
23 33 13 19-0003	EA	8" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	597.60	20.62
		For Dynamic Damper, Add	289.31	
		For 3 Hour Rated, Add	160.73	
23 33 13 19-0004	EA	8" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	610.91	20.80
		For Dynamic Damper, Add	296.29	
		For 3 Hour Rated, Add	164.61	
23 33 13 19-0005	EA	10" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	576.77	20.80
		For Dynamic Damper, Add	277.86	
		For 3 Hour Rated, Add	154.37	
23 33 13 19-0006	EA	10" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	590.59	21.33
		For Dynamic Damper, Add	284.36	
		For 3 Hour Rated, Add	157.98	
23 33 13 19-0007	EA	10" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	621.88	23.64
		For Dynamic Damper, Add	297.42	
		For 3 Hour Rated, Add	165.23	
23 33 13 19-0008	EA	12" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	590.59	21.33
		For Dynamic Damper, Add	284.36	
		For 3 Hour Rated, Add	157.98	
23 33 13 19-0009	EA	12" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	618.31	22.57
		For Dynamic Damper, Add	297.42	
		For 3 Hour Rated, Add	165.23	
23 33 13 19-0010	EA	12" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	633.93	23.64
		For Dynamic Damper, Add	303.92	
		For 3 Hour Rated, Add	168.85	
23 33 13 19-0011	EA	12" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	654.93	26.66
		For Dynamic Damper, Add	310.47	
		For 3 Hour Rated, Add	172.49	
23 33 13 19-0012	EA	14" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	612.29	22.57
		For Dynamic Damper, Add	294.17	
		For 3 Hour Rated, Add	163.43	
23 33 13 19-0013	EA	14" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	633.93	23.64
		For Dynamic Damper, Add	303.92	
		For 3 Hour Rated, Add	168.85	
23 33 13 19-0014	EA	14" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	649.61	24.89
		For Dynamic Damper, Add	310.47	
		For 3 Hour Rated, Add	172.49	
23 33 13 19-0015	EA	14" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	667.06	26.66
		For Dynamic Damper, Add	317.02	
		For 3 Hour Rated, Add	176.12	
23 33 13 19-0016	EA	14" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	706.15	29.69
		For Dynamic Damper, Add	333.33	
		For 3 Hour Rated, Add	185.18	
23 33 13 19-0017	EA	16" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	692.26	23.64
		For Dynamic Damper, Add	335.42	
		For 3 Hour Rated, Add	186.35	
23 33 13 19-0018	EA	16" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	705.08	25.42
		For Dynamic Damper, Add	339.47	
		For 3 Hour Rated, Add	188.60	
23 33 13 19-0019	EA	16" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	719.69	27.91
		For Dynamic Damper, Add	343.52	
		For 3 Hour Rated, Add	190.85	
23 33 13 19-0020	EA	16" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	732.42	29.69
		For Dynamic Damper, Add	347.52	
		For 3 Hour Rated, Add	193.07	
23 33 13 19-0021	EA	16" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	760.03	32.53
		For Dynamic Damper, Add	357.63	
		For 3 Hour Rated, Add	198.68	
23 33 13 19-0022	EA	16" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	787.59	35.55
		For Dynamic Damper, Add	367.71	
		For 3 Hour Rated, Add	204.28	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
HVAC Air Distribution		23 30	
Air Duct Accessories		23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0023	EA	18" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	703.31	24.89	
		For Dynamic Damper, Add	339.47		
		For 3 Hour Rated, Add	188.60		
23 33 13 19-0024	EA	18" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	719.80	26.66	
		For Dynamic Damper, Add	345.50		
		For 3 Hour Rated, Add	191.95		
23 33 13 19-0025	EA	18" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	739.97	29.69	
		For Dynamic Damper, Add	351.59		
		For 3 Hour Rated, Add	195.33		
23 33 13 19-0026	EA	18" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	767.53	32.53	
		For Dynamic Damper, Add	361.68		
		For 3 Hour Rated, Add	200.93		
23 33 13 19-0027	EA	18" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	791.32	35.55	
		For Dynamic Damper, Add	369.72		
		For 3 Hour Rated, Add	205.40		
23 33 13 19-0028	EA	18" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	818.88	38.40	
		For Dynamic Damper, Add	379.80		
		For 3 Hour Rated, Add	211.00		
23 33 13 19-0029	EA	18" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	838.99	41.42	
		For Dynamic Damper, Add	385.87		
		For 3 Hour Rated, Add	214.37		
23 33 13 19-0030	EA	20" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	716.13	26.66	
		For Dynamic Damper, Add	343.52		
		For 3 Hour Rated, Add	190.85		
23 33 13 19-0031	EA	20" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	739.92	29.69	
		For Dynamic Damper, Add	351.57		
		For 3 Hour Rated, Add	195.32		
23 33 13 19-0032	EA	20" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	763.75	32.53	
		For Dynamic Damper, Add	359.63		
		For 3 Hour Rated, Add	199.80		
23 33 13 19-0033	EA	20" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	802.59	35.55	
		For Dynamic Damper, Add	375.81		
		For 3 Hour Rated, Add	208.78		
23 33 13 19-0034	EA	20" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	822.66	38.40	
		For Dynamic Damper, Add	381.84		
		For 3 Hour Rated, Add	212.14		
23 33 13 19-0035	EA	20" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	842.71	41.42	
		For Dynamic Damper, Add	387.88		
		For 3 Hour Rated, Add	215.49		
23 33 13 19-0036	EA	20" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	866.55	44.44	
		For Dynamic Damper, Add	395.95		
		For 3 Hour Rated, Add	219.97		
23 33 13 19-0037	EA	20" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	890.34	47.29	
		For Dynamic Damper, Add	404.00		
		For 3 Hour Rated, Add	224.44		
23 33 13 19-0038	EA	24" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	733.03	29.69	
		For Dynamic Damper, Add	347.65		
		For 3 Hour Rated, Add	193.25		
23 33 13 19-0039	EA	24" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	757.03	32.53	
		For Dynamic Damper, Add	356.01		
		For 3 Hour Rated, Add	197.78		
23 33 13 19-0040	EA	24" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	776.02	35.55	
		For Dynamic Damper, Add	361.46		
		For 3 Hour Rated, Add	200.81		
23 33 13 19-0041	EA	24" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	799.97	38.40	
		For Dynamic Damper, Add	369.59		
		For 3 Hour Rated, Add	205.33		
23 33 13 19-0042	EA	24" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	816.40	41.42	
		For Dynamic Damper, Add	373.67		
		For 3 Hour Rated, Add	207.59		
23 33 13 19-0043	EA	24" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	832.82	44.44	
		For Dynamic Damper, Add	377.74		
		For 3 Hour Rated, Add	209.85		
23 33 13 19-0044	EA	24" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	856.80	47.29	
		For Dynamic Damper, Add	385.88		
		For 3 Hour Rated, Add	214.38		
23 33 13 19-0045	EA	24" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	889.66	53.33	
		For Dynamic Damper, Add	394.03		
		For 3 Hour Rated, Add	218.90		
23 33 13 19-0046	EA	24" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	927.56	59.20	
		For Dynamic Damper, Add	404.90		
		For 3 Hour Rated, Add	224.94		
23 33 13 19-0047	EA	28" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	757.03	32.53	
		For Dynamic Damper, Add	356.01		
		For 3 Hour Rated, Add	197.78		
23 33 13 19-0048	EA	28" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	776.02	35.55	
		For Dynamic Damper, Add	361.46		
		For 3 Hour Rated, Add	200.81		
23 33 13 19-0049	EA	28" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	799.97	38.40	
		For Dynamic Damper, Add	369.59		
		For 3 Hour Rated, Add	205.33		
23 33 13 19-0050	EA	28" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	818.91	41.42	
		For Dynamic Damper, Add	375.02		
		For 3 Hour Rated, Add	208.35		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0051	EA	28" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	840.38	44.44
		For Dynamic Damper, Add	381.82	
		For 3 Hour Rated, Add	212.12	
23 33 13 19-0052	EA	28" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	861.81	47.29
		For Dynamic Damper, Add	388.59	
		For 3 Hour Rated, Add	215.88	
23 33 13 19-0053	EA	28" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	894.68	53.33
		For Dynamic Damper, Add	396.74	
		For 3 Hour Rated, Add	220.41	
23 33 13 19-0054	EA	28" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	927.56	59.20
		For Dynamic Damper, Add	404.90	
		For 3 Hour Rated, Add	224.94	
23 33 13 19-0055	EA	28" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	966.62	62.22
		For Dynamic Damper, Add	421.19	
		For 3 Hour Rated, Add	233.99	
23 33 13 19-0056	EA	28" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,009.56	68.08
		For Dynamic Damper, Add	434.78	
		For 3 Hour Rated, Add	241.54	
23 33 13 19-0057	EA	32" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	791.08	35.55
		For Dynamic Damper, Add	369.59	
		For 3 Hour Rated, Add	205.33	
23 33 13 19-0058	EA	32" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	804.98	38.40
		For Dynamic Damper, Add	372.30	
		For 3 Hour Rated, Add	206.83	
23 33 13 19-0059	EA	32" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	818.91	41.42
		For Dynamic Damper, Add	375.02	
		For 3 Hour Rated, Add	208.35	
23 33 13 19-0060	EA	32" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	837.84	44.44
		For Dynamic Damper, Add	380.45	
		For 3 Hour Rated, Add	211.36	
23 33 13 19-0061	EA	32" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	862.75	47.29
		For Dynamic Damper, Add	389.10	
		For 3 Hour Rated, Add	216.17	
23 33 13 19-0062	EA	32" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	894.68	53.33
		For Dynamic Damper, Add	396.74	
		For 3 Hour Rated, Add	220.41	
23 33 13 19-0063	EA	32" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	932.62	59.20
		For Dynamic Damper, Add	407.63	
		For 3 Hour Rated, Add	226.46	
23 33 13 19-0064	EA	32" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	970.53	65.05
		For Dynamic Damper, Add	418.50	
		For 3 Hour Rated, Add	232.50	
23 33 13 19-0065	EA	32" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,009.56	68.08
		For Dynamic Damper, Add	434.78	
		For 3 Hour Rated, Add	241.54	
23 33 13 19-0066	EA	32" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,059.02	72.88
		For Dynamic Damper, Add	453.81	
		For 3 Hour Rated, Add	252.12	
23 33 13 19-0067	EA	32" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,111.66	76.96
		For Dynamic Damper, Add	475.52	
		For 3 Hour Rated, Add	264.18	
23 33 13 19-0068	EA	36" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	830.80	38.40
		For Dynamic Damper, Add	386.24	
		For 3 Hour Rated, Add	214.58	
23 33 13 19-0069	EA	36" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	850.59	41.42
		For Dynamic Damper, Add	392.13	
		For 3 Hour Rated, Add	217.85	
23 33 13 19-0070	EA	36" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	870.41	44.44
		For Dynamic Damper, Add	398.03	
		For 3 Hour Rated, Add	221.13	
23 33 13 19-0071	EA	36" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	895.73	47.29
		For Dynamic Damper, Add	406.91	
		For 3 Hour Rated, Add	226.06	
23 33 13 19-0072	EA	36" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	921.74	53.33
		For Dynamic Damper, Add	411.35	
		For 3 Hour Rated, Add	228.53	
23 33 13 19-0073	EA	36" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	938.82	56.17
		For Dynamic Damper, Add	415.77	
		For 3 Hour Rated, Add	230.99	
23 33 13 19-0074	EA	36" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	992.84	65.05
		For Dynamic Damper, Add	430.55	
		For 3 Hour Rated, Add	239.19	
23 33 13 19-0075	EA	36" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,037.91	71.11
		For Dynamic Damper, Add	445.28	
		For 3 Hour Rated, Add	247.38	
23 33 13 19-0076	EA	36" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,077.82	73.41
		For Dynamic Damper, Add	463.00	
		For 3 Hour Rated, Add	257.22	
23 33 13 19-0077	EA	36" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,137.57	78.75
		For Dynamic Damper, Add	486.63	
		For 3 Hour Rated, Add	270.35	
23 33 13 19-0078	EA	36" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,188.24	82.83
		For Dynamic Damper, Add	507.27	
		For 3 Hour Rated, Add	281.82	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0079	EA	36" x 36"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,240.88 530.90 294.94	85.85
23 33 13 19-0080	EA	40" x 6"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,338.77 655.75 364.31	44.44
23 33 13 19-0081	EA	40" x 8"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,376.97 671.58 373.10	47.29
23 33 13 19-0082	EA	40" x 10"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,393.23 675.56 375.31	50.31
23 33 13 19-0083	EA	40" x 12"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,409.48 679.53 377.52	53.33
23 33 13 19-0084	EA	40" x 14"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,452.94 693.40 385.22	56.17
23 33 13 19-0085	EA	40" x 16"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,487.55 707.29 392.94	59.20
23 33 13 19-0086	EA	40" x 18"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,543.58 723.15 401.75	68.08
23 33 13 19-0087	EA	40" x 20"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,590.67 738.98 410.54	73.94
23 33 13 19-0088	EA	40" x 24"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,648.97 762.78 423.77	78.75
23 33 13 19-0089	EA	40" x 28"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,742.09 806.35 447.97	82.83
23 33 13 19-0090	EA	40" x 32"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,800.31 830.11 461.17	87.64
23 33 13 19-0091	EA	40" x 36"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,888.20 873.73 485.40	89.94
23 33 13 19-0092	EA	40" x 40"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,975.81 913.36 507.42	94.74
23 33 13 19-0093	EA	44" x 6"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,362.34 663.68 368.71	44.44
23 33 13 19-0094	EA	44" x 8"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,400.59 679.53 377.52	47.29
23 33 13 19-0095	EA	44" x 10"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,431.52 691.43 384.13	50.31
23 33 13 19-0096	EA	44" x 12"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,447.78 695.41 386.34	53.33
23 33 13 19-0097	EA	44" x 14"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,486.03 711.27 395.15	56.17
23 33 13 19-0098	EA	44" x 16"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,524.23 727.10 403.94	59.20
23 33 13 19-0099	EA	44" x 18"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,596.51 746.93 414.96	71.11
23 33 13 19-0100	EA	44" x 20"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,650.91 766.71 425.95	76.96
23 33 13 19-0101	EA	44" x 24"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,742.09 806.35 447.97	82.83
23 33 13 19-0102	EA	44" x 28"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,825.91 842.01 467.78	88.87
23 33 13 19-0103	EA	44" x 32"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,917.04 881.63 489.79	94.74
23 33 13 19-0104	EA	44" x 36"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,991.98 917.29 509.61	97.58
23 33 13 19-0105	EA	44" x 40"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,066.95 952.98 529.43	100.61
23 33 13 19-0106	EA	44" x 44"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,141.93 988.66 549.26	103.63

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0107	EA	48" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,393.23	47.29
		For Dynamic Damper, Add	675.56	
		For 3 Hour Rated, Add	375.31	
23 33 13 19-0108	EA	48" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,431.52	50.31
		For Dynamic Damper, Add	691.43	
		For 3 Hour Rated, Add	384.13	
23 33 13 19-0109	EA	48" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,447.78	53.33
		For Dynamic Damper, Add	695.41	
		For 3 Hour Rated, Add	386.34	
23 33 13 19-0110	EA	48" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,487.55	59.20
		For Dynamic Damper, Add	707.29	
		For 3 Hour Rated, Add	392.94	
23 33 13 19-0111	EA	48" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,534.69	65.05
		For Dynamic Damper, Add	723.15	
		For 3 Hour Rated, Add	401.75	
23 33 13 19-0112	EA	48" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,581.79	71.11
		For Dynamic Damper, Add	738.98	
		For 3 Hour Rated, Add	410.54	
23 33 13 19-0113	EA	48" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,643.63	76.96
		For Dynamic Damper, Add	762.78	
		For 3 Hour Rated, Add	423.77	
23 33 13 19-0114	EA	48" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,705.41	82.83
		For Dynamic Damper, Add	786.54	
		For 3 Hour Rated, Add	436.97	
23 33 13 19-0115	EA	48" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,789.23	88.87
		For Dynamic Damper, Add	822.20	
		For 3 Hour Rated, Add	456.78	
23 33 13 19-0116	EA	48" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,887.68	94.74
		For Dynamic Damper, Add	865.77	
		For 3 Hour Rated, Add	480.98	
23 33 13 19-0117	EA	48" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,962.70	97.58
		For Dynamic Damper, Add	901.48	
		For 3 Hour Rated, Add	500.82	
23 33 13 19-0118	EA	48" x 36" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,059.59	100.61
		For Dynamic Damper, Add	949.00	
		For 3 Hour Rated, Add	527.22	
23 33 13 19-0119	EA	48" x 40" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,143.45	106.47
		For Dynamic Damper, Add	984.69	
		For 3 Hour Rated, Add	547.05	
23 33 13 19-0120	EA	48" x 44" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,240.42	109.49
		For Dynamic Damper, Add	1,032.25	
		For 3 Hour Rated, Add	573.47	
23 33 13 19-0121	EA	48" x 48" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,325.77	118.38
		For Dynamic Damper, Add	1,063.94	
		For 3 Hour Rated, Add	591.08	
23 33 13 19-0122	EA	52" x 6" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,424.16	50.31
		For Dynamic Damper, Add	687.46	
		For 3 Hour Rated, Add	381.92	
23 33 13 19-0123	EA	52" x 8" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,462.41	53.33
		For Dynamic Damper, Add	703.31	
		For 3 Hour Rated, Add	390.73	
23 33 13 19-0124	EA	52" x 10" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,509.54	59.20
		For Dynamic Damper, Add	719.17	
		For 3 Hour Rated, Add	399.54	
23 33 13 19-0125	EA	52" x 12" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,534.69	65.05
		For Dynamic Damper, Add	723.15	
		For 3 Hour Rated, Add	401.75	
23 33 13 19-0126	EA	52" x 14" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,585.51	71.11
		For Dynamic Damper, Add	740.99	
		For 3 Hour Rated, Add	411.66	
23 33 13 19-0127	EA	52" x 16" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,636.27	76.96
		For Dynamic Damper, Add	758.81	
		For 3 Hour Rated, Add	421.56	
23 33 13 19-0128	EA	52" x 18" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,698.09	82.83
		For Dynamic Damper, Add	782.59	
		For 3 Hour Rated, Add	434.77	
23 33 13 19-0129	EA	52" x 20" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,759.87	88.87
		For Dynamic Damper, Add	806.35	
		For 3 Hour Rated, Add	447.97	
23 33 13 19-0130	EA	52" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,843.68	94.74
		For Dynamic Damper, Add	842.01	
		For 3 Hour Rated, Add	467.78	
23 33 13 19-0131	EA	52" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	1,949.55	100.61
		For Dynamic Damper, Add	889.58	
		For 3 Hour Rated, Add	494.21	
23 33 13 19-0132	EA	52" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,031.75	103.63
		For Dynamic Damper, Add	929.17	
		For 3 Hour Rated, Add	516.20	
23 33 13 19-0133	EA	52" x 36" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,136.13	106.47
		For Dynamic Damper, Add	980.74	
		For 3 Hour Rated, Add	544.85	
23 33 13 19-0134	EA	52" x 40" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	2,241.90	112.51
		For Dynamic Damper, Add	1,028.25	
		For 3 Hour Rated, Add	571.25	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0135	EA	52" x 44"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,325.77 1,063.94 591.08	118.38
23 33 13 19-0136	EA	52" x 48"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,440.46 1,111.48 617.49	127.27
23 33 13 19-0137	EA	52" x 52"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,531.65 1,151.12 639.51	133.14
23 33 13 19-0138	EA	56" x 6"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,447.78 695.41 386.34	53.33
23 33 13 19-0139	EA	56" x 8"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,502.18 715.19 397.33	59.20
23 33 13 19-0140	EA	56" x 10"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,542.01 727.10 403.94	65.05
23 33 13 19-0141	EA	56" x 12"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,567.10 731.05 406.14	71.11
23 33 13 19-0142	EA	56" x 14"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,625.27 752.87 418.26	76.96
23 33 13 19-0143	EA	56" x 16"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,683.41 774.66 430.37	82.83
23 33 13 19-0144	EA	56" x 18"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,741.51 796.44 442.46	88.87
23 33 13 19-0145	EA	56" x 20"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,799.64 818.23 454.57	94.74
23 33 13 19-0146	EA	56" x 24"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,905.46 865.77 480.98	100.61
23 33 13 19-0147	EA	56" x 28"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,002.48 913.36 507.42	103.63
23 33 13 19-0148	EA	56" x 32"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,092.04 956.93 531.63	106.47
23 33 13 19-0149	EA	56" x 36"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,212.59 1,012.42 562.46	112.51
23 33 13 19-0150	EA	56" x 40"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,318.41 1,059.97 588.87	118.38
23 33 13 19-0151	EA	56" x 44"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,431.58 1,111.48 617.49	124.25
23 33 13 19-0152	EA	56" x 48"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,522.76 1,151.12 639.51	130.29
23 33 13 19-0153	EA	56" x 52"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,635.94 1,202.64 668.13	136.16
23 33 13 19-0154	EA	56" x 56"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	2,749.12 1,254.16 696.76	142.02
23 33 13 19-0155	EA	60" x 6"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,487.55 707.29 392.94	59.20
23 33 13 19-0156	EA	60" x 8"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,542.01 727.10 403.94	65.05
23 33 13 19-0157	EA	60" x 10"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,574.47 735.03 408.35	71.11
23 33 13 19-0158	EA	60" x 12"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,599.55 738.98 410.54	76.96
23 33 13 19-0159	EA	60" x 14"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,661.41 762.78 423.77	82.83
23 33 13 19-0160	EA	60" x 16"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,723.19 786.54 436.97	88.87
23 33 13 19-0161	EA	60" x 18"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,788.64 812.29 451.27	94.74
23 33 13 19-0162	EA	60" x 20"	Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated..... For Dynamic Damper, Add For 3 Hour Rated, Add	1,854.14 838.06 465.59	100.61

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0163	EA	60" x 24" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	1,958.44	103.63
		<i>For Dynamic Damper, Add</i>	889.58	
		<i>For 3 Hour Rated, Add</i>	494.21	
23 33 13 19-0164	EA	60" x 28" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,055.36	106.47
		<i>For Dynamic Damper, Add</i>	937.12	
		<i>For 3 Hour Rated, Add</i>	520.62	
23 33 13 19-0165	EA	60" x 32" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,168.59	112.51
		<i>For Dynamic Damper, Add</i>	988.66	
		<i>For 3 Hour Rated, Add</i>	549.26	
23 33 13 19-0166	EA	60" x 36" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,281.77	118.38
		<i>For Dynamic Damper, Add</i>	1,040.18	
		<i>For 3 Hour Rated, Add</i>	577.88	
23 33 13 19-0167	EA	60" x 40" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,372.90	124.25
		<i>For Dynamic Damper, Add</i>	1,079.79	
		<i>For 3 Hour Rated, Add</i>	599.89	
23 33 13 19-0168	EA	60" x 44" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,508.08	130.29
		<i>For Dynamic Damper, Add</i>	1,143.20	
		<i>For 3 Hour Rated, Add</i>	635.11	
23 33 13 19-0169	EA	60" x 48" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,628.62	136.16
		<i>For Dynamic Damper, Add</i>	1,198.69	
		<i>For 3 Hour Rated, Add</i>	665.94	
23 33 13 19-0170	EA	60" x 52" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,749.12	142.02
		<i>For Dynamic Damper, Add</i>	1,254.16	
		<i>For 3 Hour Rated, Add</i>	696.76	
23 33 13 19-0171	EA	60" x 56" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,854.89	148.07
		<i>For Dynamic Damper, Add</i>	1,301.68	
		<i>For 3 Hour Rated, Add</i>	723.15	
23 33 13 19-0172	EA	60" x 60" Louver Type Combination Fire/Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated.....	2,960.85	153.93
		<i>For Dynamic Damper, Add</i>	1,349.29	
		<i>For 3 Hour Rated, Add</i>	749.61	
23 33 13 19-0173		Combination Smoke/Fire Damper (Ruskin FSD60) (23 33 13 19)		
		Note: 1-1/2 hour rating, leakage class I with Firestat UL 555S air foil blades and actuator.		
23 33 13 19-0174	EA	6" x 6", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	830.15	19.79
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	308.36	
23 33 13 19-0175	EA	8" x 6", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	851.56	20.62
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	315.88	
23 33 13 19-0176	EA	8" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	870.99	20.86
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	323.51	
23 33 13 19-0177	EA	10" x 6", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	912.31	20.86
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	340.04	
23 33 13 19-0178	EA	10" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	933.98	21.33
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	348.00	
23 33 13 19-0179	EA	10" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	981.04	23.70
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	363.97	
23 33 13 19-0180	EA	11" x 11", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	995.98	25.12
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	368.15	
23 33 13 19-0181	EA	12" x 6", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	916.85	21.33
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	341.14	
23 33 13 19-0182	EA	12" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	959.57	22.63
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	356.81	
23 33 13 19-0183	EA	12" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	982.65	23.70
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	364.62	
23 33 13 19-0184	EA	12" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,010.81	26.66
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	372.33	
23 33 13 19-0185	EA	14" x 6", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	916.67	22.63
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	339.65	
23 33 13 19-0186	EA	14" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	948.42	23.70
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		<i>For 3 Hour Rated, Add</i>	350.92	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0187	EA	14" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	970.87	24.89	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				358.48	
23 33 13 19-0188	EA	14" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	995.09	26.66	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				366.04	
23 33 13 19-0189	EA	14" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,051.06	29.74	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				384.88	
23 33 13 19-0190	EA	16" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	981.43	25.48	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				362.00	
23 33 13 19-0191	EA	16" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,007.99	27.97	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				369.78	
23 33 13 19-0192	EA	16" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,032.76	29.74	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				377.56	
23 33 13 19-0193	EA	16" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,069.11	32.59	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				388.54	
23 33 13 19-0194	EA	16" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,102.43	35.55	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				398.31	
23 33 13 19-0195	EA	16" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,260.32	44.44	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				450.80	
23 33 13 19-0196	EA	18" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	984.98	26.66	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				362.00	
23 33 13 19-0197	EA	18" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,020.06	29.74	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				372.48	
23 33 13 19-0198	EA	18" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,055.14	32.59	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				382.95	
23 33 13 19-0199	EA	18" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,088.47	35.55	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				392.73	
23 33 13 19-0200	EA	18" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,121.80	38.40	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				402.50	
23 33 13 19-0201	EA	18" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,155.12	41.48	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				412.28	
23 33 13 19-0202	EA	20" x 8", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,054.23	29.74	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				386.14	
23 33 13 19-0203	EA	20" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,090.21	32.59	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				396.98	
23 33 13 19-0204	EA	20" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,126.20	35.55	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				407.82	
23 33 13 19-0205	EA	20" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,162.18	38.40	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				418.66	
23 33 13 19-0206	EA	20" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,200.62	41.48	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				430.48	
23 33 13 19-0207	EA	20" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,231.92	44.44	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add				439.44	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0208	EA	20" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,263.12	47.29
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	448.37	
23 33 13 19-0209	EA	20" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,335.60	53.33
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	470.25	
23 33 13 19-0210	EA	22" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,101.48	34.01
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	399.69	
23 33 13 19-0211	EA	22" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,138.71	36.98
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	411.02	
23 33 13 19-0212	EA	22" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,175.93	39.94
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	422.36	
23 33 13 19-0213	EA	22" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,214.38	42.90
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	434.18	
23 33 13 19-0214	EA	22" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,246.27	45.86
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	443.38	
23 33 13 19-0215	EA	22" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,282.51	50.37
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	452.57	
23 33 13 19-0216	EA	22" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,305.85	52.97
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	458.73	
23 33 13 19-0217	EA	22" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,664.73	66.60
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	585.88	
23 33 13 19-0218	EA	22" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,934.90	70.74
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	688.97	
23 33 13 19-0219	EA	24" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,142.34	35.55
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	414.28	
23 33 13 19-0220	EA	24" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,181.67	38.40
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	426.45	
23 33 13 19-0221	EA	24" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,221.00	41.48
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	438.63	
23 33 13 19-0222	EA	24" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,260.32	44.44
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	450.80	
23 33 13 19-0223	EA	24" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,293.52	47.29
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	460.53	
23 33 13 19-0224	EA	24" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,335.60	53.33
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	470.25	
23 33 13 19-0225	EA	24" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,360.71	56.29
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	476.74	
23 33 13 19-0226	EA	24" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,385.80	59.25
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	483.22	
23 33 13 19-0227	EA	26" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,158.49	36.98
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	418.94	
23 33 13 19-0228	EA	26" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,194.02	39.94
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	429.59	



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23 33 13 19-0229	EA	26" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,237.46	42.90	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			443.41		
23 33 13 19-0230	EA	26" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,281.03	45.86	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			457.28		
23 33 13 19-0231	EA	26" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,318.60	50.37	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			467.00		
23 33 13 19-0232	EA	26" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,360.71	56.29	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			476.74		
23 33 13 19-0233	EA	26" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,387.60	58.54	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			484.84		
23 33 13 19-0234	EA	26" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,414.63	60.68	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			492.95		
23 33 13 19-0235	EA	26" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,442.35	63.39	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			500.77		
23 33 13 19-0236	EA	28" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,259.49	38.40	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			457.58		
23 33 13 19-0237	EA	28" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,301.49	41.48	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			470.83		
23 33 13 19-0238	EA	28" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,347.83	44.44	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			485.81		
23 33 13 19-0239	EA	28" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,394.23	47.29	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			500.81		
23 33 13 19-0240	EA	28" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,433.85	53.33	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			509.55		
23 33 13 19-0241	EA	28" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,479.97	59.25	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			520.89		
23 33 13 19-0242	EA	28" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,508.43	60.68	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			530.47		
23 33 13 19-0243	EA	28" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,536.76	62.22	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			540.05		
23 33 13 19-0244	EA	28" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,569.24	65.18	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			549.48		
23 33 13 19-0245	EA	28" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,599.93	68.14	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			558.20		
23 33 13 19-0246	EA	28" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,372.31	78.81	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			854.36		
23 33 13 19-0247	EA	30" x 10", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,268.02	39.94	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			459.19		
23 33 13 19-0248	EA	30" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,314.15	42.90	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			474.09		
23 33 13 19-0249	EA	30" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,360.31	45.86	
Note: Includes acuator and PFMA mounting angles for 2 sides.					
For 3 Hour Rated, Add			489.00		

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23 33 13	19-0250	EA	30" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,410.87	50.37
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	503.91	
23 33 13	19-0251	EA	30" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,445.89	56.29
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	510.81	
23 33 13	19-0252	EA	30" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,493.88	62.10
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	522.90	
23 33 13	19-0253	EA	30" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,524.23	63.64
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	533.24	
23 33 13	19-0254	EA	30" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,554.47	65.18
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	543.58	
23 33 13	19-0255	EA	30" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,588.42	67.78
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	553.94	
23 33 13	19-0256	EA	30" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,622.24	70.51
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	564.29	
23 33 13	19-0257	EA	30" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,664.30	73.23
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	577.79	
23 33 13	19-0258	EA	30" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,820.17	74.89
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	638.10	
23 33 13	19-0259	EA	30" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,513.50	91.83
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	895.20	
23 33 13	19-0260	EA	32" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,439.42	44.44
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	522.44	
23 33 13	19-0261	EA	32" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,478.02	47.29
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	534.33	
23 33 13	19-0262	EA	32" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,522.03	53.33
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	544.82	
23 33 13	19-0263	EA	32" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,577.19	59.25
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	559.78	
23 33 13	19-0264	EA	32" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,632.29	65.05
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	574.70	
23 33 13	19-0265	EA	32" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,664.73	66.60
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	585.88	
23 33 13	19-0266	EA	32" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,697.05	68.14
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	597.05	
23 33 13	19-0267	EA	32" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,736.83	70.51
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	610.12	
23 33 13	19-0268	EA	32" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,776.61	72.88
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	623.19	
23 33 13	19-0269	EA	32" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,820.17	74.89
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	638.10	
23 33 13	19-0270	EA	32" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	1,863.59	77.02
			Note: Includes actuator and PFMA mounting angles for 2 sides.		
			<i>For 3 Hour Rated, Add</i>	653.01	



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23 33 13 19-0271	EA	32" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,161.89	79.87	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	768.77		
23 33 13 19-0272	EA	34" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,677.54	45.86	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	615.89		
23 33 13 19-0273	EA	34" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,716.43	50.37	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	626.14		
23 33 13 19-0274	EA	34" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,753.41	54.75	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	635.57		
23 33 13 19-0275	EA	34" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,825.75	62.10	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	655.64		
23 33 13 19-0276	EA	34" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,893.62	68.14	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	675.68		
23 33 13 19-0277	EA	34" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,930.87	69.44	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	688.97		
23 33 13 19-0278	EA	34" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,968.14	70.74	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	702.27		
23 33 13 19-0279	EA	34" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,017.33	73.23	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	718.96		
23 33 13 19-0280	EA	34" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,066.62	75.84	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	735.64		
23 33 13 19-0281	EA	34" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,114.31	77.85	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	752.20		
23 33 13 19-0282	EA	34" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,161.89	79.87	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	768.77		
23 33 13 19-0283	EA	34" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,210.62	82.00	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	785.70		
23 33 13 19-0284	EA	34" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,062.73	84.37	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	723.75		
23 33 13 19-0285	EA	36" x 12", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,928.19	47.29	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	714.40		
23 33 13 19-0286	EA	36" x 14", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,965.47	53.33	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	722.20		
23 33 13 19-0287	EA	36" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	1,993.78	56.17	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	729.96		
23 33 13 19-0288	EA	36" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,085.29	65.05	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	755.90		
23 33 13 19-0289	EA	36" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,167.75	71.11	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	781.78		
23 33 13 19-0290	EA	36" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,210.19	72.28	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	797.33		
23 33 13 19-0291	EA	36" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)	2,252.62	73.47	
		Note: Includes acuator and PFMA mounting angles for 2 sides.			
		For 3 Hour Rated, Add	812.88		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0292	EA	36" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,312.53	76.08
		<i>For 3 Hour Rated, Add</i>	833.62	
23 33 13 19-0293	EA	36" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,372.31	78.81
		<i>For 3 Hour Rated, Add</i>	854.36	
23 33 13 19-0294	EA	36" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,423.90	80.82
		<i>For 3 Hour Rated, Add</i>	872.48	
23 33 13 19-0295	EA	36" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,475.36	82.83
		<i>For 3 Hour Rated, Add</i>	890.60	
23 33 13 19-0296	EA	36" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,531.71	84.37
		<i>For 3 Hour Rated, Add</i>	911.34	
23 33 13 19-0297	EA	36" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,587.94	85.91
		<i>For 3 Hour Rated, Add</i>	932.08	
23 33 13 19-0298	EA	38" x 16", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,004.17	57.71
		<i>For 3 Hour Rated, Add</i>	732.32	
23 33 13 19-0299	EA	38" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,083.85	66.60
		<i>For 3 Hour Rated, Add</i>	753.53	
23 33 13 19-0300	EA	38" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,154.52	72.52
		<i>For 3 Hour Rated, Add</i>	774.68	
23 33 13 19-0301	EA	38" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,194.75	74.30
		<i>For 3 Hour Rated, Add</i>	788.64	
23 33 13 19-0302	EA	38" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,234.99	76.08
		<i>For 3 Hour Rated, Add</i>	802.61	
23 33 13 19-0303	EA	38" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,296.30	78.44
		<i>For 3 Hour Rated, Add</i>	824.29	
23 33 13 19-0304	EA	38" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,357.61	80.82
		<i>For 3 Hour Rated, Add</i>	845.97	
23 33 13 19-0305	EA	38" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,402.32	83.07
		<i>For 3 Hour Rated, Add</i>	861.20	
23 33 13 19-0306	EA	38" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,447.04	85.20
		<i>For 3 Hour Rated, Add</i>	876.43	
23 33 13 19-0307	EA	38" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,505.31	86.63
		<i>For 3 Hour Rated, Add</i>	898.13	
23 33 13 19-0308	EA	38" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,563.57	87.93
		<i>For 3 Hour Rated, Add</i>	919.82	
23 33 13 19-0309	EA	38" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,623.15	89.24
		<i>For 3 Hour Rated, Add</i>	942.04	
23 33 13 19-0310	EA	40" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,082.29	68.14
		<i>For 3 Hour Rated, Add</i>	751.15	
23 33 13 19-0311	EA	40" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,141.17	73.94
		<i>For 3 Hour Rated, Add</i>	767.59	
23 33 13 19-0312	EA	40" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,179.20	76.31
		<i>For 3 Hour Rated, Add</i>	779.96	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0313	EA		40" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,217.23 792.33	78.81
23 33 13 19-0314	EA		40" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,280.07 814.95	80.82
23 33 13 19-0315	EA		40" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,342.79 837.58	82.83
23 33 13 19-0316	EA		40" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,380.75 849.92	85.20
23 33 13 19-0317	EA		40" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,418.71 862.26	87.69
23 33 13 19-0318	EA		40" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,478.90 884.91	88.75
23 33 13 19-0319	EA		40" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,539.09 907.56	89.94
23 33 13 19-0320	EA		40" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,597.66 928.15	92.32
23 33 13 19-0321	EA		40" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,656.24 948.74	94.80
23 33 13 19-0322	EA		40" x 66", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,729.40 1,330.98	133.67
23 33 13 19-0323	EA		42" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,117.67 763.50	69.56
23 33 13 19-0324	EA		42" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,181.70 782.00	75.48
23 33 13 19-0325	EA		42" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,230.82 798.48	78.09
23 33 13 19-0326	EA		42" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,280.07 814.95	80.82
23 33 13 19-0327	EA		42" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,338.96 835.52	83.31
23 33 13 19-0328	EA		42" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,397.99 856.10	85.91
23 33 13 19-0329	EA		42" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,447.19 872.56	88.52
23 33 13 19-0330	EA		42" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,496.28 889.02	91.25
23 33 13 19-0331	EA		42" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,551.77 909.60	92.43
23 33 13 19-0332	EA		42" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,607.26 930.19	93.74
23 33 13 19-0333	EA		42" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,661.86 949.75	95.75

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0334	EA	42" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,716.57	97.64
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	969.31	
23 33 13 19-0335	EA	42" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,772.40	99.66
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	989.27	
23 33 13 19-0336	EA	44" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,152.95	71.11
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	775.86	
23 33 13 19-0337	EA	44" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,222.08	77.02
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	796.40	
23 33 13 19-0338	EA	44" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,282.44	79.87
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	816.99	
23 33 13 19-0339	EA	44" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,342.79	82.83
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	837.58	
23 33 13 19-0340	EA	44" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,397.99	85.91
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	856.10	
23 33 13 19-0341	EA	44" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,453.19	88.87
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	874.62	
23 33 13 19-0342	EA	44" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,513.50	91.83
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	895.20	
23 33 13 19-0343	EA	44" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,573.83	94.80
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	915.77	
23 33 13 19-0344	EA	44" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,624.63	96.22
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	934.29	
23 33 13 19-0345	EA	44" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,675.32	97.64
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	952.81	
23 33 13 19-0346	EA	44" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,726.17	99.06
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	971.35	
23 33 13 19-0347	EA	44" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,776.89	100.61
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	989.88	
23 33 13 19-0348	EA	44" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,827.73	102.15
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,008.42	
23 33 13 19-0349	EA	44" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,878.45	103.69
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,026.95	
23 33 13 19-0350	EA	46" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,182.42	74.07
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	784.09	
23 33 13 19-0351	EA	46" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,256.72	79.87
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	806.70	
23 33 13 19-0352	EA	46" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,314.50	82.83
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	826.26	
23 33 13 19-0353	EA	46" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,372.28	85.91
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	845.82	
23 33 13 19-0354	EA	46" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,432.60	88.87
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	866.39	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0355	EA		46" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,492.91 886.96	91.83
23 33 13 19-0356	EA		46" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,548.46 906.52	93.97
23 33 13 19-0357	EA		46" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,604.10 926.08	96.22
23 33 13 19-0358	EA		46" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,662.50 947.68	97.64
23 33 13 19-0359	EA		46" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,721.00 969.28	99.06
23 33 13 19-0360	EA		46" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,773.98 987.82	101.32
23 33 13 19-0361	EA		46" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,826.95 1,006.35	103.57
23 33 13 19-0362	EA		46" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,885.50 1,027.97	105.11
23 33 13 19-0363	EA		46" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,943.93 1,049.59	106.53
23 33 13 19-0364	EA		46" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,003.62 1,071.66	108.07
23 33 13 19-0365	EA		48" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,211.89 792.33	77.02
23 33 13 19-0366	EA		48" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,291.36 817.00	82.83
23 33 13 19-0367	EA		48" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,346.55 835.52	85.91
23 33 13 19-0368	EA		48" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,401.75 854.05	88.87
23 33 13 19-0369	EA		48" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,467.20 876.68	91.83
23 33 13 19-0370	EA		48" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,532.65 899.30	94.80
23 33 13 19-0371	EA		48" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,583.52 917.85	96.22
23 33 13 19-0372	EA		48" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,634.28 936.40	97.64
23 33 13 19-0373	EA		48" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,700.47 961.07	99.06
23 33 13 19-0374	EA		48" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,766.56 985.75	100.61
23 33 13 19-0375	EA		48" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,821.79 1,004.29	103.57

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0376	EA	48" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,877.01	106.53
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,022.82	
23 33 13 19-0377	EA	48" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,943.28	107.95
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,047.53	
23 33 13 19-0378	EA	48" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,009.42	109.49
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,072.23	
23 33 13 19-0379	EA	48" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,063.95	114.00
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,088.69	
23 33 13 19-0380	EA	48" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,118.38	118.38
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,105.15	
23 33 13 19-0381	EA	48" x 54", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,324.45	128.81
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,175.12	
23 33 13 19-0382	EA	50" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,325.97	85.91
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	827.29	
23 33 13 19-0383	EA	50" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,381.17	88.87
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	845.82	
23 33 13 19-0384	EA	50" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,436.35	91.83
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	864.34	
23 33 13 19-0385	EA	50" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,504.40	94.80
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	888.00	
23 33 13 19-0386	EA	50" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,572.46	97.64
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	911.67	
23 33 13 19-0387	EA	50" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,625.85	99.18
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	931.22	
23 33 13 19-0388	EA	50" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,679.11	100.61
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	950.77	
23 33 13 19-0389	EA	50" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,747.94	102.03
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	976.50	
23 33 13 19-0390	EA	50" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,816.66	103.57
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,002.24	
23 33 13 19-0391	EA	50" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,879.55	106.53
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,023.84	
23 33 13 19-0392	EA	50" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	2,942.46	109.49
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,045.45	
23 33 13 19-0393	EA	50" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,003.15	111.75
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,067.07	
23 33 13 19-0394	EA	50" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,063.95	114.00
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,088.69	
23 33 13 19-0395	EA	50" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,128.66	118.38
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,109.26	
23 33 13 19-0396	EA	50" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,193.50	122.88
		Note: Includes actuator and PFMA mounting angles for 2 sides.		
		For 3 Hour Rated, Add	1,129.84	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Duct Accessories			23 33	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0397	EA		50" x 50", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,259.62 1,150.79	127.39
23 33 13 19-0398	EA		52" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,360.57 837.58	88.87
23 33 13 19-0399	EA		52" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,415.76 856.10	91.83
23 33 13 19-0400	EA		52" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,470.96 874.62	94.80
23 33 13 19-0401	EA		52" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,541.61 899.33	97.64
23 33 13 19-0402	EA		52" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,612.25 924.03	100.61
23 33 13 19-0403	EA		52" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,668.16 944.59	102.15
23 33 13 19-0404	EA		52" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,723.96 965.16	103.69
23 33 13 19-0405	EA		52" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,795.41 991.94	105.11
23 33 13 19-0406	EA		52" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,866.75 1,018.72	106.53
23 33 13 19-0407	EA		52" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,937.33 1,043.40	109.49
23 33 13 19-0408	EA		52" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,007.92 1,068.08	112.57
23 33 13 19-0409	EA		52" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,063.14 1,086.61	115.42
23 33 13 19-0410	EA		52" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,118.38 1,105.15	118.38
23 33 13 19-0411	EA		52" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,193.50 1,129.84	122.88
23 33 13 19-0412	EA		52" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,268.49 1,154.53	127.27
23 33 13 19-0413	EA		52" x 50", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,328.84 1,175.12	130.23
23 33 13 19-0414	EA		52" x 52", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,389.20 1,195.70	133.20
23 33 13 19-0415	EA		52" x 56", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,982.23 1,429.36	136.16
23 33 13 19-0416	EA		54" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,510.69 886.96	97.64
23 33 13 19-0417	EA		54" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,579.10 911.67	99.90

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0418	EA	54" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,647.63	102.15
		<i>For 3 Hour Rated, Add</i>	936.38	
23 33 13 19-0419	EA	54" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,706.01	103.57
		<i>For 3 Hour Rated, Add</i>	957.98	
23 33 13 19-0420	EA	54" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,764.50	105.11
		<i>For 3 Hour Rated, Add</i>	979.57	
23 33 13 19-0421	EA	54" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,840.63	107.25
		<i>For 3 Hour Rated, Add</i>	1,007.37	
23 33 13 19-0422	EA	54" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,916.78	109.49
		<i>For 3 Hour Rated, Add</i>	1,035.18	
23 33 13 19-0423	EA	54" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,987.38	112.46
		<i>For 3 Hour Rated, Add</i>	1,059.86	
23 33 13 19-0424	EA	54" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,057.99	115.42
		<i>For 3 Hour Rated, Add</i>	1,084.55	
23 33 13 19-0425	EA	54" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,123.49	118.38
		<i>For 3 Hour Rated, Add</i>	1,107.19	
23 33 13 19-0426	EA	54" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,189.00	121.34
		<i>For 3 Hour Rated, Add</i>	1,129.84	
23 33 13 19-0427	EA	54" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,256.72	125.02
		<i>For 3 Hour Rated, Add</i>	1,152.48	
23 33 13 19-0428	EA	54" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,324.45	128.81
		<i>For 3 Hour Rated, Add</i>	1,175.12	
23 33 13 19-0429	EA	56" x 18", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,633.07	88.87
		<i>For 3 Hour Rated, Add</i>	946.58	
23 33 13 19-0430	EA	56" x 20", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,715.60	94.80
		<i>For 3 Hour Rated, Add</i>	972.48	
23 33 13 19-0431	EA	56" x 22", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,795.12	97.64
		<i>For 3 Hour Rated, Add</i>	1,000.73	
23 33 13 19-0432	EA	56" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,874.64	100.61
		<i>For 3 Hour Rated, Add</i>	1,028.98	
23 33 13 19-0433	EA	56" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	2,949.85	102.15
		<i>For 3 Hour Rated, Add</i>	1,057.27	
23 33 13 19-0434	EA	56" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,024.93	103.69
		<i>For 3 Hour Rated, Add</i>	1,085.54	
23 33 13 19-0435	EA	56" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,094.16	105.11
		<i>For 3 Hour Rated, Add</i>	1,111.44	
23 33 13 19-0436	EA	56" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,163.26	106.53
		<i>For 3 Hour Rated, Add</i>	1,137.32	
23 33 13 19-0437	EA	56" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,254.60	109.49
		<i>For 3 Hour Rated, Add</i>	1,170.30	
23 33 13 19-0438	EA	56" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,345.93	112.57
		<i>For 3 Hour Rated, Add</i>	1,203.28	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
Air Duct Accessories			23 33

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0439	EA		56" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,425.45 1,231.53	115.42
23 33 13 19-0440	EA		56" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,504.98 1,259.79	118.38
23 33 13 19-0441	EA		56" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,743.59 1,344.57	127.27
23 33 13 19-0442	EA		56" x 52", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,982.23 1,429.36	136.16
23 33 13 19-0443	EA		56" x 56", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	4,153.07 1,490.59	142.08
23 33 13 19-0444	EA		56" x 72", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	4,890.73 1,759.10	164.36
23 33 13 19-0445	EA		58" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,914.51 1,043.13	102.15
23 33 13 19-0446	EA		58" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,989.56 1,071.40	103.57
23 33 13 19-0447	EA		58" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,064.73 1,099.66	105.11
23 33 13 19-0448	EA		58" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,142.02 1,127.93	107.25
23 33 13 19-0449	EA		58" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,219.30 1,156.18	109.49
23 33 13 19-0450	EA		58" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,307.69 1,187.98	112.46
23 33 13 19-0451	EA		58" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,396.06 1,219.78	115.42
23 33 13 19-0452	EA		58" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,469.69 1,245.67	118.38
23 33 13 19-0453	EA		58" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,543.32 1,271.57	121.34
23 33 13 19-0454	EA		58" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,637.56 1,305.71	124.31
23 33 13 19-0455	EA		60" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	2,961.75 1,060.27	103.69
23 33 13 19-0456	EA		60" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,037.08 1,088.60	105.11
23 33 13 19-0457	EA		60" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,112.28 1,116.93	106.53
23 33 13 19-0458	EA		60" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,197.97 1,147.65	109.49
23 33 13 19-0459	EA		60" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes acuator and PFMA mounting angles for 2 sides. <i>For 3 Hour Rated, Add</i>	3,283.64 1,178.36	112.57

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0460	EA	60" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,369.29	115.42
		<i>For 3 Hour Rated, Add</i>	1,209.07	
23 33 13 19-0461	EA	60" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,454.93	118.38
		<i>For 3 Hour Rated, Add</i>	1,239.77	
23 33 13 19-0462	EA	60" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,522.85	121.34
		<i>For 3 Hour Rated, Add</i>	1,263.38	
23 33 13 19-0463	EA	60" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,590.74	124.31
		<i>For 3 Hour Rated, Add</i>	1,286.98	
23 33 13 19-0464	EA	60" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,694.08	127.27
		<i>For 3 Hour Rated, Add</i>	1,324.77	
23 33 13 19-0465	EA	60" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,797.42	130.35
		<i>For 3 Hour Rated, Add</i>	1,362.55	
23 33 13 19-0466	EA	60" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,888.99	133.20
		<i>For 3 Hour Rated, Add</i>	1,395.62	
23 33 13 19-0467	EA	60" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,980.55	136.16
		<i>For 3 Hour Rated, Add</i>	1,428.69	
23 33 13 19-0468	EA	64" x 58", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	4,672.02	156.43
		<i>For 3 Hour Rated, Add</i>	1,681.05	
23 33 13 19-0469	EA	66" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,174.21	109.97
		<i>For 3 Hour Rated, Add</i>	1,137.72	
23 33 13 19-0470	EA	66" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,248.99	110.44
		<i>For 3 Hour Rated, Add</i>	1,166.83	
23 33 13 19-0471	EA	66" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,323.67	111.03
		<i>For 3 Hour Rated, Add</i>	1,195.94	
23 33 13 19-0472	EA	66" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,433.08	115.77
		<i>For 3 Hour Rated, Add</i>	1,234.16	
23 33 13 19-0473	EA	66" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,542.62	120.52
		<i>For 3 Hour Rated, Add</i>	1,272.43	
23 33 13 19-0474	EA	66" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,629.48	124.31
		<i>For 3 Hour Rated, Add</i>	1,302.62	
23 33 13 19-0475	EA	66" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,716.39	127.99
		<i>For 3 Hour Rated, Add</i>	1,332.84	
23 33 13 19-0476	EA	66" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,772.79	130.82
		<i>For 3 Hour Rated, Add</i>	1,351.84	
23 33 13 19-0477	EA	66" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,829.21	133.67
		<i>For 3 Hour Rated, Add</i>	1,370.90	
23 33 13 19-0478	EA	70" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	3,963.61	134.97
		<i>For 3 Hour Rated, Add</i>	1,423.38	
23 33 13 19-0479	EA	70" x 38", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	4,011.56	137.70
		<i>For 3 Hour Rated, Add</i>	1,439.10	
23 33 13 19-0480	EA	70" x 40", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60)..... Note: Includes actuator and PFMA mounting angles for 2 sides.	4,059.96	140.54
		<i>For 3 Hour Rated, Add</i>	1,454.96	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0481	EA		70" x 42", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	4,227.73	143.62
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,518.56	
23 33 13 19-0482	EA		70" x 44", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	4,396.66	146.82
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,582.62	
23 33 13 19-0483	EA		70" x 46", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	4,525.35	148.13
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,632.34	
23 33 13 19-0484	EA		70" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	4,654.35	149.43
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,682.19	
23 33 13 19-0485	EA		72" x 24", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,424.73	116.61
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,229.92	
23 33 13 19-0486	EA		72" x 26", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,499.08	116.13
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,259.99	
23 33 13 19-0487	EA		72" x 28", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,573.56	115.77
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,290.07	
23 33 13 19-0488	EA		72" x 30", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,710.16	122.30
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,337.07	
23 33 13 19-0489	EA		72" x 32", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,847.59	129.05
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,384.22	
23 33 13 19-0490	EA		72" x 34", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	3,935.90	133.67
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,413.86	
23 33 13 19-0491	EA		72" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	4,024.36	138.41
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,443.56	
23 33 13 19-0492	EA		72" x 48", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	4,742.96	152.16
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,714.31	
23 33 13 19-0493	EA		72" x 60", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	5,384.89	170.88
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,948.90	
23 33 13 19-0494	EA		90" x 36", Louver Type, 1-1/2 Hour Rated, Galvanized Steel Construction, Combination Fire/Smoke Damper (Ruskin FSD60).....	5,030.49	173.02
			Note: Includes acuator and PFMA mounting angles for 2 sides.		
			For 3 Hour Rated, Add	1,804.44	
23 33 13 19-0495			Smoke Damper (23 33 13 19)		
			Note: Leakage class I with Firestat UL 555S air foil blades.		
23 33 13 19-0496	EA		6" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	127.85	13.16
			For Dynamic Damper, Add	47.73	
			For 3 Hour Rated, Add	26.52	
23 33 13 19-0497	EA		8" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	131.85	13.74
			For Dynamic Damper, Add	48.93	
			For 3 Hour Rated, Add	27.18	
23 33 13 19-0498	EA		8" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	134.34	13.86
			For Dynamic Damper, Add	50.14	
			For 3 Hour Rated, Add	27.86	
23 33 13 19-0499	EA		10" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	134.34	13.86
			For Dynamic Damper, Add	50.14	
			For 3 Hour Rated, Add	27.86	
23 33 13 19-0500	EA		10" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	137.76	14.23
			For Dynamic Damper, Add	51.35	
			For 3 Hour Rated, Add	28.53	
23 33 13 19-0501	EA		10" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	146.96	15.77
			For Dynamic Damper, Add	53.76	
			For 3 Hour Rated, Add	29.87	
23 33 13 19-0502	EA		12" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	137.76	14.23
			For Dynamic Damper, Add	51.35	
			For 3 Hour Rated, Add	28.53	
23 33 13 19-0503	EA		12" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	144.59	15.05
			For Dynamic Damper, Add	53.76	
			For 3 Hour Rated, Add	29.87	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0504	EA		12" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	149.21	15.77
			For Dynamic Damper, Add	54.98	
			For 3 Hour Rated, Add	30.54	
23 33 13 19-0505	EA		12" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	157.37	17.78
			For Dynamic Damper, Add	56.18	
			For 3 Hour Rated, Add	31.21	
23 33 13 19-0506	EA		14" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	143.48	15.05
			For Dynamic Damper, Add	53.16	
			For 3 Hour Rated, Add	29.54	
23 33 13 19-0507	EA		14" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	149.21	15.77
			For Dynamic Damper, Add	54.98	
			For 3 Hour Rated, Add	30.54	
23 33 13 19-0508	EA		14" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	153.81	16.59
			For Dynamic Damper, Add	56.18	
			For 3 Hour Rated, Add	31.21	
23 33 13 19-0509	EA		14" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	159.62	17.78
			For Dynamic Damper, Add	57.40	
			For 3 Hour Rated, Add	31.89	
23 33 13 19-0510	EA		14" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	171.13	19.79
			For Dynamic Damper, Add	60.42	
			For 3 Hour Rated, Add	33.56	
23 33 13 19-0511	EA		16" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	230.71	15.77
			For Dynamic Damper, Add	98.99	
			For 3 Hour Rated, Add	54.99	
23 33 13 19-0512	EA		16" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	236.49	16.94
			For Dynamic Damper, Add	100.19	
			For 3 Hour Rated, Add	55.66	
23 33 13 19-0513	EA		16" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	243.48	18.60
			For Dynamic Damper, Add	101.41	
			For 3 Hour Rated, Add	56.34	
23 33 13 19-0514	EA		16" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	249.26	19.79
			For Dynamic Damper, Add	102.61	
			For 3 Hour Rated, Add	57.00	
23 33 13 19-0515	EA		16" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	260.81	21.68
			For Dynamic Damper, Add	105.64	
			For 3 Hour Rated, Add	58.69	
23 33 13 19-0516	EA		16" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	272.33	23.70
			For Dynamic Damper, Add	108.66	
			For 3 Hour Rated, Add	60.37	
23 33 13 19-0517	EA		18" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	235.31	16.59
			For Dynamic Damper, Add	100.19	
			For 3 Hour Rated, Add	55.66	
23 33 13 19-0518	EA		18" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	242.23	17.78
			For Dynamic Damper, Add	102.01	
			For 3 Hour Rated, Add	56.67	
23 33 13 19-0519	EA		18" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	251.52	19.79
			For Dynamic Damper, Add	103.83	
			For 3 Hour Rated, Add	57.68	
23 33 13 19-0520	EA		18" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	263.05	21.68
			For Dynamic Damper, Add	106.85	
			For 3 Hour Rated, Add	59.36	
23 33 13 19-0521	EA		18" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	273.44	23.70
			For Dynamic Damper, Add	109.26	
			For 3 Hour Rated, Add	60.70	
23 33 13 19-0522	EA		18" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	284.96	25.60
			For Dynamic Damper, Add	112.29	
			For 3 Hour Rated, Add	62.38	
23 33 13 19-0523	EA		18" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	294.25	27.61
			For Dynamic Damper, Add	114.10	
			For 3 Hour Rated, Add	63.39	
23 33 13 19-0524	EA		20" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	241.12	17.78
			For Dynamic Damper, Add	101.41	
			For 3 Hour Rated, Add	56.34	
23 33 13 19-0525	EA		20" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	251.51	19.79
			For Dynamic Damper, Add	103.82	
			For 3 Hour Rated, Add	57.68	
23 33 13 19-0526	EA		20" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	261.92	21.68
			For Dynamic Damper, Add	106.24	
			For 3 Hour Rated, Add	59.02	
23 33 13 19-0527	EA		20" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	276.82	23.70
			For Dynamic Damper, Add	111.08	
			For 3 Hour Rated, Add	61.71	
23 33 13 19-0528	EA		20" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	286.08	25.60
			For Dynamic Damper, Add	112.89	
			For 3 Hour Rated, Add	62.72	
23 33 13 19-0529	EA		20" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	295.37	27.61
			For Dynamic Damper, Add	114.71	
			For 3 Hour Rated, Add	63.73	
23 33 13 19-0530	EA		20" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	305.76	29.63
			For Dynamic Damper, Add	117.12	
			For 3 Hour Rated, Add	65.07	
23 33 13 19-0531	EA		20" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	316.15	31.52
			For Dynamic Damper, Add	119.53	
			For 3 Hour Rated, Add	66.41	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0532	EA		24" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	318.94	19.79
			For Dynamic Damper, Add	140.23	
			For 3 Hour Rated, Add	77.91	
23 33 13 19-0533	EA		24" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	331.60	21.68
			For Dynamic Damper, Add	143.87	
			For 3 Hour Rated, Add	79.93	
23 33 13 19-0534	EA		24" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	342.02	23.70
			For Dynamic Damper, Add	146.29	
			For 3 Hour Rated, Add	81.27	
23 33 13 19-0535	EA		24" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	354.64	25.60
			For Dynamic Damper, Add	149.91	
			For 3 Hour Rated, Add	83.29	
23 33 13 19-0536	EA		24" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	363.93	27.61
			For Dynamic Damper, Add	151.73	
			For 3 Hour Rated, Add	84.29	
23 33 13 19-0537	EA		24" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	373.19	29.63
			For Dynamic Damper, Add	153.53	
			For 3 Hour Rated, Add	85.30	
23 33 13 19-0538	EA		24" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	385.84	31.52
			For Dynamic Damper, Add	157.16	
			For 3 Hour Rated, Add	87.31	
23 33 13 19-0539	EA		24" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	404.40	35.55
			For Dynamic Damper, Add	160.79	
			For 3 Hour Rated, Add	89.33	
23 33 13 19-0540	EA		24" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	425.22	39.46
			For Dynamic Damper, Add	165.63	
			For 3 Hour Rated, Add	92.02	
23 33 13 19-0541	EA		28" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	331.60	21.68
			For Dynamic Damper, Add	143.87	
			For 3 Hour Rated, Add	79.93	
23 33 13 19-0542	EA		28" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	342.02	23.70
			For Dynamic Damper, Add	146.29	
			For 3 Hour Rated, Add	81.27	
23 33 13 19-0543	EA		28" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	354.64	25.60
			For Dynamic Damper, Add	149.91	
			For 3 Hour Rated, Add	83.29	
23 33 13 19-0544	EA		28" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	365.04	27.61
			For Dynamic Damper, Add	152.33	
			For 3 Hour Rated, Add	84.63	
23 33 13 19-0545	EA		28" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	376.55	29.63
			For Dynamic Damper, Add	155.35	
			For 3 Hour Rated, Add	86.30	
23 33 13 19-0546	EA		28" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	388.07	31.52
			For Dynamic Damper, Add	158.37	
			For 3 Hour Rated, Add	87.98	
23 33 13 19-0547	EA		28" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	406.64	35.55
			For Dynamic Damper, Add	161.99	
			For 3 Hour Rated, Add	90.00	
23 33 13 19-0548	EA		28" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	425.22	39.46
			For Dynamic Damper, Add	165.63	
			For 3 Hour Rated, Add	92.02	
23 33 13 19-0549	EA		28" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	444.55	41.48
			For Dynamic Damper, Add	172.87	
			For 3 Hour Rated, Add	96.04	
23 33 13 19-0550	EA		28" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	467.61	45.38
			For Dynamic Damper, Add	178.92	
			For 3 Hour Rated, Add	99.40	
23 33 13 19-0551	EA		32" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	348.73	23.70
			For Dynamic Damper, Add	149.91	
			For 3 Hour Rated, Add	83.29	
23 33 13 19-0552	EA		32" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	356.86	25.60
			For Dynamic Damper, Add	151.11	
			For 3 Hour Rated, Add	83.95	
23 33 13 19-0553	EA		32" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	365.04	27.61
			For Dynamic Damper, Add	152.33	
			For 3 Hour Rated, Add	84.63	
23 33 13 19-0554	EA		32" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	375.42	29.63
			For Dynamic Damper, Add	154.74	
			For 3 Hour Rated, Add	85.97	
23 33 13 19-0555	EA		32" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	388.49	31.52
			For Dynamic Damper, Add	158.59	
			For 3 Hour Rated, Add	88.11	
23 33 13 19-0556	EA		32" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	406.64	35.55
			For Dynamic Damper, Add	161.99	
			For 3 Hour Rated, Add	90.00	
23 33 13 19-0557	EA		32" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	427.45	39.46
			For Dynamic Damper, Add	166.83	
			For 3 Hour Rated, Add	92.69	
23 33 13 19-0558	EA		32" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	448.27	43.37
			For Dynamic Damper, Add	171.68	
			For 3 Hour Rated, Add	95.38	
23 33 13 19-0559	EA		32" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	467.61	45.38
			For Dynamic Damper, Add	178.92	
			For 3 Hour Rated, Add	99.40	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0560	EA	32" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	492.76	48.58
		For Dynamic Damper, Add	187.39	
		For 3 Hour Rated, Add	104.10	
23 33 13 19-0561	EA	32" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	518.96	51.31
		For Dynamic Damper, Add	197.05	
		For 3 Hour Rated, Add	109.47	
23 33 13 19-0562	EA	36" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	365.19	25.60
		For Dynamic Damper, Add	155.61	
		For 3 Hour Rated, Add	86.45	
23 33 13 19-0563	EA	36" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	375.80	27.61
		For Dynamic Damper, Add	158.14	
		For 3 Hour Rated, Add	87.86	
23 33 13 19-0564	EA	36" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	386.39	29.63
		For Dynamic Damper, Add	160.66	
		For 3 Hour Rated, Add	89.26	
23 33 13 19-0565	EA	36" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	399.37	31.52
		For Dynamic Damper, Add	164.47	
		For 3 Hour Rated, Add	91.37	
23 33 13 19-0566	EA	36" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	414.75	35.55
		For Dynamic Damper, Add	166.37	
		For 3 Hour Rated, Add	92.43	
23 33 13 19-0567	EA	36" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	424.19	37.45
		For Dynamic Damper, Add	168.27	
		For 3 Hour Rated, Add	93.49	
23 33 13 19-0568	EA	36" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	453.69	43.37
		For Dynamic Damper, Add	174.60	
		For 3 Hour Rated, Add	97.00	
23 33 13 19-0569	EA	36" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	477.25	47.40
		For Dynamic Damper, Add	180.93	
		For 3 Hour Rated, Add	100.52	
23 33 13 19-0570	EA	36" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	496.07	48.94
		For Dynamic Damper, Add	188.53	
		For 3 Hour Rated, Add	104.74	
23 33 13 19-0571	EA	36" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	525.47	52.50
		For Dynamic Damper, Add	198.65	
		For 3 Hour Rated, Add	110.36	
23 33 13 19-0572	EA	36" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	550.19	55.22
		For Dynamic Damper, Add	207.52	
		For 3 Hour Rated, Add	115.29	
23 33 13 19-0573	EA	36" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	574.88	57.23
		For Dynamic Damper, Add	217.65	
		For 3 Hour Rated, Add	120.92	
23 33 13 19-0574	EA	40" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	422.35	29.63
		For Dynamic Damper, Add	183.28	
		For 3 Hour Rated, Add	101.82	
23 33 13 19-0575	EA	40" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	437.64	31.52
		For Dynamic Damper, Add	188.34	
		For 3 Hour Rated, Add	104.63	
23 33 13 19-0576	EA	40" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	445.92	33.53
		For Dynamic Damper, Add	189.60	
		For 3 Hour Rated, Add	105.34	
23 33 13 19-0577	EA	40" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	454.19	35.55
		For Dynamic Damper, Add	190.87	
		For 3 Hour Rated, Add	106.04	
23 33 13 19-0578	EA	40" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	474.25	37.45
		For Dynamic Damper, Add	195.31	
		For 3 Hour Rated, Add	108.50	
23 33 13 19-0579	EA	40" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	488.40	39.46
		For Dynamic Damper, Add	199.75	
		For 3 Hour Rated, Add	110.97	
23 33 13 19-0580	EA	40" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	515.55	45.38
		For Dynamic Damper, Add	204.81	
		For 3 Hour Rated, Add	113.78	
23 33 13 19-0581	EA	40" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	536.79	49.30
		For Dynamic Damper, Add	209.88	
		For 3 Hour Rated, Add	116.60	
23 33 13 19-0582	EA	40" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	560.32	52.50
		For Dynamic Damper, Add	217.47	
		For 3 Hour Rated, Add	120.82	
23 33 13 19-0583	EA	40" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	594.41	55.22
		For Dynamic Damper, Add	231.40	
		For 3 Hour Rated, Add	128.55	
23 33 13 19-0584	EA	40" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	617.94	58.42
		For Dynamic Damper, Add	238.98	
		For 3 Hour Rated, Add	132.77	
23 33 13 19-0585	EA	40" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	648.48	59.96
		For Dynamic Damper, Add	252.91	
		For 3 Hour Rated, Add	140.51	
23 33 13 19-0586	EA	40" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	681.42	63.16
		For Dynamic Damper, Add	265.58	
		For 3 Hour Rated, Add	147.55	
23 33 13 19-0587	EA	44" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	432.96	29.63
		For Dynamic Damper, Add	185.81	
		For 3 Hour Rated, Add	103.23	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0588	EA		44" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	448.27	31.52
			For Dynamic Damper, Add	190.87	
			For 3 Hour Rated, Add	106.04	
23 33 13 19-0589	EA		44" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	461.24	33.53
			For Dynamic Damper, Add	194.68	
			For 3 Hour Rated, Add	108.16	
23 33 13 19-0590	EA		44" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	469.52	35.55
			For Dynamic Damper, Add	195.95	
			For 3 Hour Rated, Add	108.86	
23 33 13 19-0591	EA		44" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	484.31	37.45
			For Dynamic Damper, Add	201.01	
			For 3 Hour Rated, Add	111.67	
23 33 13 19-0592	EA		44" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	500.12	39.46
			For Dynamic Damper, Add	206.07	
			For 3 Hour Rated, Add	114.49	
23 33 13 19-0593	EA		44" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	535.55	47.40
			For Dynamic Damper, Add	212.41	
			For 3 Hour Rated, Add	118.01	
23 33 13 19-0594	EA		44" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	559.11	51.31
			For Dynamic Damper, Add	218.73	
			For 3 Hour Rated, Add	121.52	
23 33 13 19-0595	EA		44" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	594.41	55.22
			For Dynamic Damper, Add	231.40	
			For 3 Hour Rated, Add	128.55	
23 33 13 19-0596	EA		44" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	627.37	59.25
			For Dynamic Damper, Add	242.79	
			For 3 Hour Rated, Add	134.89	
23 33 13 19-0597	EA		44" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	662.64	63.16
			For Dynamic Damper, Add	255.44	
			For 3 Hour Rated, Add	141.91	
23 33 13 19-0598	EA		44" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	689.68	65.05
			For Dynamic Damper, Add	266.84	
			For 3 Hour Rated, Add	148.25	
23 33 13 19-0599	EA		44" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	716.72	67.07
			For Dynamic Damper, Add	278.24	
			For 3 Hour Rated, Add	154.58	
23 33 13 19-0600	EA		44" x 44" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	743.75	69.08
			For Dynamic Damper, Add	289.64	
			For 3 Hour Rated, Add	160.91	
23 33 13 19-0601	EA		48" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	445.92	31.52
			For Dynamic Damper, Add	189.60	
			For 3 Hour Rated, Add	105.34	
23 33 13 19-0602	EA		48" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	461.24	33.53
			For Dynamic Damper, Add	194.68	
			For 3 Hour Rated, Add	108.16	
23 33 13 19-0603	EA		48" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	469.52	35.55
			For Dynamic Damper, Add	195.95	
			For 3 Hour Rated, Add	108.86	
23 33 13 19-0604	EA		48" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	488.40	39.46
			For Dynamic Damper, Add	199.75	
			For 3 Hour Rated, Add	110.97	
23 33 13 19-0605	EA		48" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	509.62	43.37
			For Dynamic Damper, Add	204.81	
			For 3 Hour Rated, Add	113.78	
23 33 13 19-0606	EA		48" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	530.86	47.40
			For Dynamic Damper, Add	209.88	
			For 3 Hour Rated, Add	116.60	
23 33 13 19-0607	EA		48" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	556.77	51.31
			For Dynamic Damper, Add	217.47	
			For 3 Hour Rated, Add	120.82	
23 33 13 19-0608	EA		48" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	582.67	55.22
			For Dynamic Damper, Add	225.06	
			For 3 Hour Rated, Add	125.03	
23 33 13 19-0609	EA		48" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	615.63	59.25
			For Dynamic Damper, Add	236.46	
			For 3 Hour Rated, Add	131.36	
23 33 13 19-0610	EA		48" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	653.27	63.16
			For Dynamic Damper, Add	250.38	
			For 3 Hour Rated, Add	139.10	
23 33 13 19-0611	EA		48" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	680.32	65.05
			For Dynamic Damper, Add	261.79	
			For 3 Hour Rated, Add	145.44	
23 33 13 19-0612	EA		48" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	714.37	67.07
			For Dynamic Damper, Add	276.97	
			For 3 Hour Rated, Add	153.87	
23 33 13 19-0613	EA		48" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	747.33	70.98
			For Dynamic Damper, Add	288.37	
			For 3 Hour Rated, Add	160.21	
23 33 13 19-0614	EA		48" x 44" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	781.38	73.00
			For Dynamic Damper, Add	303.56	
			For 3 Hour Rated, Add	168.65	
23 33 13 19-0615	EA		48" x 48" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	817.92	78.92
			For Dynamic Damper, Add	313.70	
			For 3 Hour Rated, Add	174.28	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0616	EA	52" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	458.90	33.53
		For Dynamic Damper, Add	193.42	
		For 3 Hour Rated, Add	107.45	
23 33 13 19-0617	EA	52" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	474.20	35.55
		For Dynamic Damper, Add	198.48	
		For 3 Hour Rated, Add	110.27	
23 33 13 19-0618	EA	52" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	495.42	39.46
		For Dynamic Damper, Add	203.54	
		For 3 Hour Rated, Add	113.08	
23 33 13 19-0619	EA	52" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	509.62	43.37
		For Dynamic Damper, Add	204.81	
		For 3 Hour Rated, Add	113.78	
23 33 13 19-0620	EA	52" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	532.03	47.40
		For Dynamic Damper, Add	210.51	
		For 3 Hour Rated, Add	116.95	
23 33 13 19-0621	EA	52" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	554.43	51.31
		For Dynamic Damper, Add	216.21	
		For 3 Hour Rated, Add	120.11	
23 33 13 19-0622	EA	52" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	580.34	55.22
		For Dynamic Damper, Add	223.80	
		For 3 Hour Rated, Add	124.33	
23 33 13 19-0623	EA	52" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	606.26	59.25
		For Dynamic Damper, Add	231.40	
		For 3 Hour Rated, Add	128.55	
23 33 13 19-0624	EA	52" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	639.22	63.16
		For Dynamic Damper, Add	242.79	
		For 3 Hour Rated, Add	134.89	
23 33 13 19-0625	EA	52" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	679.20	67.07
		For Dynamic Damper, Add	257.98	
		For 3 Hour Rated, Add	143.32	
23 33 13 19-0626	EA	52" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	708.56	69.08
		For Dynamic Damper, Add	270.64	
		For 3 Hour Rated, Add	150.35	
23 33 13 19-0627	EA	52" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	744.98	70.98
		For Dynamic Damper, Add	287.10	
		For 3 Hour Rated, Add	159.50	
23 33 13 19-0628	EA	52" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	784.95	75.01
		For Dynamic Damper, Add	302.29	
		For 3 Hour Rated, Add	167.94	
23 33 13 19-0629	EA	52" x 44" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	817.92	78.92
		For Dynamic Damper, Add	313.70	
		For 3 Hour Rated, Add	174.28	
23 33 13 19-0630	EA	52" x 48" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	863.82	84.85
		For Dynamic Damper, Add	328.89	
		For 3 Hour Rated, Add	182.72	
23 33 13 19-0631	EA	52" x 52" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	899.14	88.75
		For Dynamic Damper, Add	341.56	
		For 3 Hour Rated, Add	189.75	
23 33 13 19-0632	EA	56" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	469.52	35.55
		For Dynamic Damper, Add	195.95	
		For 3 Hour Rated, Add	108.86	
23 33 13 19-0633	EA	56" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	493.07	39.46
		For Dynamic Damper, Add	202.27	
		For 3 Hour Rated, Add	112.37	
23 33 13 19-0634	EA	56" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	511.97	43.37
		For Dynamic Damper, Add	206.07	
		For 3 Hour Rated, Add	114.49	
23 33 13 19-0635	EA	56" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	526.15	47.40
		For Dynamic Damper, Add	207.33	
		For 3 Hour Rated, Add	115.19	
23 33 13 19-0636	EA	56" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	550.91	51.31
		For Dynamic Damper, Add	214.30	
		For 3 Hour Rated, Add	119.06	
23 33 13 19-0637	EA	56" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	575.65	55.22
		For Dynamic Damper, Add	221.27	
		For 3 Hour Rated, Add	122.93	
23 33 13 19-0638	EA	56" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	600.39	59.25
		For Dynamic Damper, Add	228.23	
		For 3 Hour Rated, Add	126.79	
23 33 13 19-0639	EA	56" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	625.14	63.16
		For Dynamic Damper, Add	235.19	
		For 3 Hour Rated, Add	130.66	
23 33 13 19-0640	EA	56" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	665.13	67.07
		For Dynamic Damper, Add	250.38	
		For 3 Hour Rated, Add	139.10	
23 33 13 19-0641	EA	56" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	699.20	69.08
		For Dynamic Damper, Add	265.58	
		For 3 Hour Rated, Add	147.55	
23 33 13 19-0642	EA	56" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	730.92	70.98
		For Dynamic Damper, Add	279.51	
		For 3 Hour Rated, Add	155.28	
23 33 13 19-0643	EA	56" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated	775.59	75.01
		For Dynamic Damper, Add	297.23	
		For 3 Hour Rated, Add	165.13	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 19-0644	EA		56" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	815.57 312.43 173.57	78.92
23 33 13 19-0645	EA		56" x 44" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	857.90 328.89 182.72	82.83
23 33 13 19-0646	EA		56" x 48" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	893.21 341.56 189.75	86.86
23 33 13 19-0647	EA		56" x 52" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	935.54 358.01 198.90	90.78
23 33 13 19-0648	EA		56" x 56" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	977.87 374.47 208.04	94.68
23 33 13 19-0649	EA		60" x 6" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	488.40 199.75 110.97	39.46
23 33 13 19-0650	EA		60" x 8" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	511.97 206.07 114.49	43.37
23 33 13 19-0651	EA		60" x 10" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	528.49 208.60 115.89	47.40
23 33 13 19-0652	EA		60" x 12" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	542.71 209.88 116.60	51.31
23 33 13 19-0653	EA		60" x 14" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	568.62 217.47 120.82	55.22
23 33 13 19-0654	EA		60" x 16" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	594.52 225.06 125.03	59.25
23 33 13 19-0655	EA		60" x 18" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	621.62 233.29 129.61	63.16
23 33 13 19-0656	EA		60" x 20" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	648.72 241.52 134.18	67.07
23 33 13 19-0657	EA		60" x 24" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	685.12 257.98 143.32	69.08
23 33 13 19-0658	EA		60" x 28" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	719.18 273.17 151.76	70.98
23 33 13 19-0659	EA		60" x 32" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	761.53 289.64 160.91	75.01
23 33 13 19-0660	EA		60" x 36" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	803.85 306.10 170.06	78.92
23 33 13 19-0661	EA		60" x 40" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	839.14 318.76 177.09	82.83
23 33 13 19-0662	EA		60" x 44" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	888.49 339.01 188.34	86.86
23 33 13 19-0663	EA		60" x 48" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	933.17 356.73 198.19	90.78
23 33 13 19-0664	EA		60" x 52" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	977.87 374.47 208.04	94.68
23 33 13 19-0665	EA		60" x 56" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	1,017.82 389.65 216.47	98.71
23 33 13 19-0666	EA		60" x 60" Louver Type Smoke Damper, Steel Construction, UL Listed, 1-1/2 Hour Rated For Dynamic Damper, Add For 3 Hour Rated, Add	1,057.83 404.85 224.92	102.63
23 33 13 19-0667			Motorized Combination Fire/Smoke Damper (Dayton) (23 33 13 19) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.		
23 33 13 19-0668	EA		8" Width x 8" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ9) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	724.59	21.56
23 33 13 19-0669	EA		10" Width x 10" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGK1) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	739.32	22.51
23 33 13 19-0670	EA		12" Width x 12" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGK2) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	801.30	23.70
23 33 13 19-0671	EA		16" Width x 16" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGK3) Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.	839.76	25.01

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13	19-0672	EA	18" Width x 18" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGK4).....	899.08	26.31
			Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.		
23 33 13	19-0673	EA	24" Width x 24" Height, 120 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGK5).....	982.04	27.85
			Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.		
23 33 13	19-0674	EA	8" Width x 8" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ3).....	727.35	21.56
			Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.		
23 33 13	19-0675	EA	10" Width x 10" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ4).....	726.76	22.51
			Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.		
23 33 13	19-0676	EA	12" Width x 12" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ5).....	801.25	23.70
			Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.		
23 33 13	19-0677	EA	16" Width x 16" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ6).....	839.76	25.01
			Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.		
23 33 13	19-0678	EA	18" Width x 18" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ7).....	899.08	26.31
			Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.		
23 33 13	19-0679	EA	24" Width x 24" Height, 24 Volt, 1-1/2 Hour, Galvanized Steel, Motorized Combination Fire/Smoke Damper (Dayton 3HGJ8).....	961.45	27.85
			Note: Includes damper, motor, actuators and junction box. Excludes electrical connection.		

23 33 13 23 Backdraft Dampers (23 33 13)**23 33 13 23-0001 Horizontally Mounted Backdraft Damper (23 33 13 23)**

Note: Galvanized steel frame, aluminum blades. Exclude motor pack.

23 33 13	23-0002	EA	6" x 6" Horizontally Mounted Backdraft Damper.....	104.31	13.16
23 33 13	23-0003	EA	8" x 6" Horizontally Mounted Backdraft Damper.....	127.68	13.74
23 33 13	23-0004	EA	8" x 8" Horizontally Mounted Backdraft Damper.....	156.74	13.86
23 33 13	23-0005	EA	10" x 6" Horizontally Mounted Backdraft Damper.....	149.55	13.86
23 33 13	23-0006	EA	10" x 8" Horizontally Mounted Backdraft Damper.....	142.15	14.23
23 33 13	23-0007	EA	10" x 10" Horizontally Mounted Backdraft Damper.....	171.75	15.77
23 33 13	23-0008	EA	12" x 6" Horizontally Mounted Backdraft Damper.....	132.21	14.23
23 33 13	23-0009	EA	12" x 8" Horizontally Mounted Backdraft Damper.....	166.78	15.77
23 33 13	23-0010	EA	12" x 10" Horizontally Mounted Backdraft Damper.....	158.44	16.59
23 33 13	23-0011	EA	12" x 12" Horizontally Mounted Backdraft Damper.....	183.75	17.78
23 33 13	23-0012	EA	14" x 6" Horizontally Mounted Backdraft Damper.....	149.49	15.05
23 33 13	23-0013	EA	14" x 8" Horizontally Mounted Backdraft Damper.....	151.19	16.59
23 33 13	23-0014	EA	14" x 10" Horizontally Mounted Backdraft Damper.....	180.14	17.78
23 33 13	23-0015	EA	14" x 12" Horizontally Mounted Backdraft Damper.....	156.79	19.79
23 33 13	23-0016	EA	14" x 14" Horizontally Mounted Backdraft Damper.....	178.98	21.68
23 33 13	23-0017	EA	16" x 6" Horizontally Mounted Backdraft Damper.....	166.78	15.77
23 33 13	23-0018	EA	16" x 8" Horizontally Mounted Backdraft Damper.....	169.25	17.78
23 33 13	23-0019	EA	16" x 10" Horizontally Mounted Backdraft Damper.....	152.15	19.79
23 33 13	23-0020	EA	16" x 12" Horizontally Mounted Backdraft Damper.....	170.71	19.79
23 33 13	23-0021	EA	16" x 14" Horizontally Mounted Backdraft Damper.....	195.24	21.68
23 33 13	23-0022	EA	16" x 16" Horizontally Mounted Backdraft Damper.....	219.73	23.70
23 33 13	23-0023	EA	18" x 6" Horizontally Mounted Backdraft Damper.....	147.59	16.59
23 33 13	23-0024	EA	18" x 8" Horizontally Mounted Backdraft Damper.....	136.92	17.78
23 33 13	23-0025	EA	18" x 10" Horizontally Mounted Backdraft Damper.....	163.74	19.79
23 33 13	23-0026	EA	18" x 12" Horizontally Mounted Backdraft Damper.....	190.57	21.68
23 33 13	23-0027	EA	18" x 14" Horizontally Mounted Backdraft Damper.....	217.39	23.70
23 33 13	23-0028	EA	18" x 16" Horizontally Mounted Backdraft Damper.....	249.57	25.60
23 33 13	23-0029	EA	18" x 18" Horizontally Mounted Backdraft Damper.....	282.98	29.63
23 33 13	23-0030	EA	18" x 20" Horizontally Mounted Backdraft Damper.....	225.61	31.52
23 33 13	23-0031	EA	18" x 24" Horizontally Mounted Backdraft Damper.....	263.61	35.55
23 33 13	23-0032	EA	20" x 6" Horizontally Mounted Backdraft Damper.....	162.00	17.78
23 33 13	23-0033	EA	20" x 8" Horizontally Mounted Backdraft Damper.....	152.15	19.79
23 33 13	23-0034	EA	20" x 10" Horizontally Mounted Backdraft Damper.....	181.28	21.68
23 33 13	23-0035	EA	20" x 12" Horizontally Mounted Backdraft Damper.....	210.45	23.70
23 33 13	23-0036	EA	20" x 14" Horizontally Mounted Backdraft Damper.....	244.78	25.60
23 33 13	23-0037	EA	20" x 16" Horizontally Mounted Backdraft Damper.....	274.67	27.61
23 33 13	23-0038	EA	20" x 18" Horizontally Mounted Backdraft Damper.....	225.61	31.52
23 33 13	23-0039	EA	20" x 20" Horizontally Mounted Backdraft Damper.....	240.14	31.52
23 33 13	23-0040	EA	20" x 24" Horizontally Mounted Backdraft Damper.....	281.05	35.55
23 33 13	23-0041	EA	20" x 28" Horizontally Mounted Backdraft Damper.....	321.96	39.46
23 33 13	23-0042	EA	20" x 32" Horizontally Mounted Backdraft Damper.....	296.44	43.37
23 33 13	23-0043	EA	20" x 36" Horizontally Mounted Backdraft Damper.....	329.03	47.40
23 33 13	23-0044	EA	24" x 6" Horizontally Mounted Backdraft Damper.....	142.84	19.79
23 33 13	23-0045	EA	24" x 8" Horizontally Mounted Backdraft Damper.....	176.64	21.68
23 33 13	23-0046	EA	24" x 10" Horizontally Mounted Backdraft Damper.....	210.45	23.70
23 33 13	23-0047	EA	24" x 12" Horizontally Mounted Backdraft Damper.....	249.57	25.60
23 33 13	23-0048	EA	24" x 14" Horizontally Mounted Backdraft Damper.....	210.95	29.63
23 33 13	23-0049	EA	24" x 16" Horizontally Mounted Backdraft Damper.....	234.32	31.52
23 33 13	23-0050	EA	24" x 18" Horizontally Mounted Backdraft Damper.....	263.61	35.55
23 33 13	23-0051	EA	24" x 20" Horizontally Mounted Backdraft Damper.....	281.05	35.55
23 33 13	23-0052	EA	24" x 24" Horizontally Mounted Backdraft Damper.....	327.78	39.46
23 33 13	23-0053	EA	24" x 28" Horizontally Mounted Backdraft Damper.....	304.72	43.37
23 33 13	23-0054	EA	24" x 32" Horizontally Mounted Backdraft Damper.....	341.50	47.40



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 23-0055	EA		24" x 36" Horizontally Mounted Backdraft Damper.....	378.25	51.31
23 33 13 23-0056	EA		24" x 40" Horizontally Mounted Backdraft Damper.....	365.20	55.22
23 33 13 23-0057	EA		24" x 44" Horizontally Mounted Backdraft Damper.....	396.98	59.25
23 33 13 23-0058	EA		24" x 48" Horizontally Mounted Backdraft Damper.....	416.90	59.25
23 33 13 23-0059	EA		28" x 6" Horizontally Mounted Backdraft Damper.....	156.79	19.79
23 33 13 23-0060	EA		28" x 8" Horizontally Mounted Backdraft Damper.....	195.24	21.68
23 33 13 23-0061	EA		28" x 10" Horizontally Mounted Backdraft Damper.....	244.78	25.60
23 33 13 23-0062	EA		28" x 12" Horizontally Mounted Backdraft Damper.....	210.95	29.63
23 33 13 23-0063	EA		28" x 14" Horizontally Mounted Backdraft Damper.....	237.23	31.52
23 33 13 23-0064	EA		28" x 16" Horizontally Mounted Backdraft Damper.....	269.43	35.55
23 33 13 23-0065	EA		28" x 18" Horizontally Mounted Backdraft Damper.....	301.63	39.46
23 33 13 23-0066	EA		28" x 20" Horizontally Mounted Backdraft Damper.....	321.96	39.46
23 33 13 23-0067	EA		28" x 24" Horizontally Mounted Backdraft Damper.....	304.72	43.37
23 33 13 23-0068	EA		28" x 28" Horizontally Mounted Backdraft Damper.....	345.66	47.40
23 33 13 23-0069	EA		28" x 32" Horizontally Mounted Backdraft Damper.....	396.56	51.31
23 33 13 23-0070	EA		28" x 36" Horizontally Mounted Backdraft Damper.....	387.00	59.25
23 33 13 23-0071	EA		28" x 40" Horizontally Mounted Backdraft Damper.....	410.26	59.25
23 33 13 23-0072	EA		28" x 44" Horizontally Mounted Backdraft Damper.....	445.35	63.16
23 33 13 23-0073	EA		28" x 48" Horizontally Mounted Backdraft Damper.....	480.47	67.07
23 33 13 23-0074	EA		28" x 52" Horizontally Mounted Backdraft Damper.....	503.73	67.07
23 33 13 23-0075	EA		28" x 56" Horizontally Mounted Backdraft Damper.....	498.14	70.98
23 33 13 23-0076	EA		28" x 60" Horizontally Mounted Backdraft Damper.....	518.46	70.98
23 33 13 23-0077	EA		32" x 6" Horizontally Mounted Backdraft Damper.....	176.64	21.68
23 33 13 23-0078	EA		32" x 8" Horizontally Mounted Backdraft Damper.....	230.40	25.60
23 33 13 23-0079	EA		32" x 10" Horizontally Mounted Backdraft Damper.....	274.67	27.61
23 33 13 23-0080	EA		32" x 12" Horizontally Mounted Backdraft Damper.....	234.32	31.52
23 33 13 23-0081	EA		32" x 14" Horizontally Mounted Backdraft Damper.....	269.43	35.55
23 33 13 23-0082	EA		32" x 16" Horizontally Mounted Backdraft Damper.....	304.52	39.46
23 33 13 23-0083	EA		32" x 18" Horizontally Mounted Backdraft Damper.....	267.97	39.46
23 33 13 23-0084	EA		32" x 20" Horizontally Mounted Backdraft Damper.....	296.44	43.37
23 33 13 23-0085	EA		32" x 24" Horizontally Mounted Backdraft Damper.....	341.50	47.40
23 33 13 23-0086	EA		32" x 28" Horizontally Mounted Backdraft Damper.....	386.56	51.31
23 33 13 23-0087	EA		32" x 32" Horizontally Mounted Backdraft Damper.....	390.34	59.25
23 33 13 23-0088	EA		32" x 36" Horizontally Mounted Backdraft Damper.....	416.90	59.25
23 33 13 23-0089	EA		32" x 40" Horizontally Mounted Backdraft Damper.....	455.32	63.16
23 33 13 23-0090	EA		32" x 44" Horizontally Mounted Backdraft Damper.....	493.75	67.07
23 33 13 23-0091	EA		32" x 48" Horizontally Mounted Backdraft Damper.....	492.32	70.98
23 33 13 23-0092	EA		32" x 52" Horizontally Mounted Backdraft Damper.....	515.58	70.98
23 33 13 23-0093	EA		32" x 56" Horizontally Mounted Backdraft Damper.....	550.66	75.01
23 33 13 23-0094	EA		32" x 60" Horizontally Mounted Backdraft Damper.....	573.93	75.01
23 33 13 23-0095	EA		32" x 64" Horizontally Mounted Backdraft Damper.....	555.86	78.92
23 33 13 23-0096	EA		32" x 68" Horizontally Mounted Backdraft Damper.....	575.79	78.92
23 33 13 23-0097	EA		32" x 72" Horizontally Mounted Backdraft Damper.....	607.57	82.83
23 33 13 23-0098	EA		36" x 6" Horizontally Mounted Backdraft Damper.....	190.57	21.68
23 33 13 23-0099	EA		36" x 8" Horizontally Mounted Backdraft Damper.....	255.50	27.61
23 33 13 23-0100	EA		36" x 10" Horizontally Mounted Backdraft Damper.....	225.61	31.52
23 33 13 23-0101	EA		36" x 12" Horizontally Mounted Backdraft Damper.....	263.61	35.55
23 33 13 23-0102	EA		36" x 14" Horizontally Mounted Backdraft Damper.....	301.63	39.46
23 33 13 23-0103	EA		36" x 16" Horizontally Mounted Backdraft Damper.....	267.97	39.46
23 33 13 23-0104	EA		36" x 18" Horizontally Mounted Backdraft Damper.....	298.50	43.37
23 33 13 23-0105	EA		36" x 20" Horizontally Mounted Backdraft Damper.....	329.03	47.40
23 33 13 23-0106	EA		36" x 24" Horizontally Mounted Backdraft Damper.....	378.25	51.31
23 33 13 23-0107	EA		36" x 28" Horizontally Mounted Backdraft Damper.....	387.00	59.25
23 33 13 23-0108	EA		36" x 32" Horizontally Mounted Backdraft Damper.....	416.90	59.25
23 33 13 23-0109	EA		36" x 36" Horizontally Mounted Backdraft Damper.....	458.63	63.16
23 33 13 23-0110	EA		36" x 40" Horizontally Mounted Backdraft Damper.....	500.40	67.07
23 33 13 23-0111	EA		36" x 44" Horizontally Mounted Backdraft Damper.....	501.02	70.98
23 33 13 23-0112	EA		36" x 48" Horizontally Mounted Backdraft Damper.....	539.05	75.01
23 33 13 23-0113	EA		36" x 52" Horizontally Mounted Backdraft Damper.....	565.19	75.01
23 33 13 23-0114	EA		36" x 56" Horizontally Mounted Backdraft Damper.....	550.89	78.92
23 33 13 23-0115	EA		36" x 60" Horizontally Mounted Backdraft Damper.....	573.30	78.92
23 33 13 23-0116	EA		36" x 64" Horizontally Mounted Backdraft Damper.....	607.57	82.83
23 33 13 23-0117	EA		36" x 68" Horizontally Mounted Backdraft Damper.....	629.98	82.83
23 33 13 23-0118	EA		36" x 72" Horizontally Mounted Backdraft Damper.....	652.43	82.83
23 33 13 23-0119	EA		40" x 6" Horizontally Mounted Backdraft Damper.....	210.45	23.70
23 33 13 23-0120	EA		40" x 8" Horizontally Mounted Backdraft Damper.....	280.59	29.63
23 33 13 23-0121	EA		40" x 10" Horizontally Mounted Backdraft Damper.....	240.14	31.52
23 33 13 23-0122	EA		40" x 12" Horizontally Mounted Backdraft Damper.....	281.05	35.55
23 33 13 23-0123	EA		40" x 14" Horizontally Mounted Backdraft Damper.....	321.96	39.46
23 33 13 23-0124	EA		40" x 16" Horizontally Mounted Backdraft Damper.....	296.44	43.37
23 33 13 23-0125	EA		40" x 18" Horizontally Mounted Backdraft Damper.....	329.03	47.40
23 33 13 23-0126	EA		40" x 20" Horizontally Mounted Backdraft Damper.....	361.63	51.31
23 33 13 23-0127	EA		40" x 24" Horizontally Mounted Backdraft Damper.....	365.20	55.22
23 33 13 23-0128	EA		40" x 28" Horizontally Mounted Backdraft Damper.....	410.26	59.25
23 33 13 23-0129	EA		40" x 32" Horizontally Mounted Backdraft Damper.....	455.32	63.16
23 33 13 23-0130	EA		40" x 36" Horizontally Mounted Backdraft Damper.....	500.40	67.07
23 33 13 23-0131	EA		40" x 40" Horizontally Mounted Backdraft Damper.....	503.93	70.98
23 33 13 23-0132	EA		40" x 44" Horizontally Mounted Backdraft Damper.....	544.84	75.01
23 33 13 23-0133	EA		40" x 48" Horizontally Mounted Backdraft Damper.....	573.93	75.01
23 33 13 23-0134	EA		40" x 50" Horizontally Mounted Backdraft Damper.....	548.40	78.92
23 33 13 23-0135	EA		44" x 6" Horizontally Mounted Backdraft Damper.....	235.19	25.60

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 23-0136 EA 44" x 8" Horizontally Mounted Backdraft Damper	222.70	31.52
23 33 13 23-0137 EA 44" x 10" Horizontally Mounted Backdraft Damper	266.52	35.55
23 33 13 23-0138 EA 44" x 12" Horizontally Mounted Backdraft Damper	310.34	39.46
23 33 13 23-0139 EA 44" x 14" Horizontally Mounted Backdraft Damper	290.19	43.37
23 33 13 23-0140 EA 44" x 16" Horizontally Mounted Backdraft Damper	324.88	47.40
23 33 13 23-0141 EA 44" x 18" Horizontally Mounted Backdraft Damper	347.72	47.40
23 33 13 23-0142 EA 44" x 20" Horizontally Mounted Backdraft Damper	382.41	51.31
23 33 13 23-0143 EA 44" x 24" Horizontally Mounted Backdraft Damper	396.98	59.25
23 33 13 23-0144 EA 44" x 28" Horizontally Mounted Backdraft Damper	445.35	63.16
23 33 13 23-0145 EA 44" x 32" Horizontally Mounted Backdraft Damper	493.75	67.07
23 33 13 23-0146 EA 44" x 36" Horizontally Mounted Backdraft Damper	501.02	70.98
23 33 13 23-0147 EA 44" x 40" Horizontally Mounted Backdraft Damper	544.84	75.01
23 33 13 23-0148 EA 44" x 44" Horizontally Mounted Backdraft Damper	576.81	75.01
23 33 13 23-0149 EA 44" x 48" Horizontally Mounted Backdraft Damper	565.84	78.92
23 33 13 23-0150 EA 44" x 50" Horizontally Mounted Backdraft Damper	579.52	78.92
23 33 13 23-0151 EA 48" x 6" Horizontally Mounted Backdraft Damper	255.50	27.61
23 33 13 23-0152 EA 48" x 8" Horizontally Mounted Backdraft Damper	234.32	31.52
23 33 13 23-0153 EA 48" x 10" Horizontally Mounted Backdraft Damper	281.05	35.55
23 33 13 23-0154 EA 48" x 12" Horizontally Mounted Backdraft Damper	267.97	39.46
23 33 13 23-0155 EA 48" x 14" Horizontally Mounted Backdraft Damper	304.72	43.37
23 33 13 23-0156 EA 48" x 16" Horizontally Mounted Backdraft Damper	341.50	47.40
23 33 13 23-0157 EA 48" x 18" Horizontally Mounted Backdraft Damper	378.25	51.31
23 33 13 23-0158 EA 48" x 20" Horizontally Mounted Backdraft Damper	365.20	55.22
23 33 13 23-0159 EA 48" x 24" Horizontally Mounted Backdraft Damper	416.90	59.25
23 33 13 23-0160 EA 48" x 28" Horizontally Mounted Backdraft Damper	480.47	67.07
23 33 13 23-0161 EA 48" x 32" Horizontally Mounted Backdraft Damper	492.32	70.98
23 33 13 23-0162 EA 48" x 36" Horizontally Mounted Backdraft Damper	539.05	75.01
23 33 13 23-0163 EA 48" x 40" Horizontally Mounted Backdraft Damper	573.93	75.01
23 33 13 23-0164 EA 48" x 44" Horizontally Mounted Backdraft Damper	565.84	78.92
23 33 13 23-0165 EA 48" x 48" Horizontally Mounted Backdraft Damper	607.57	82.83
23 33 13 23-0166 EA 48" x 50" Horizontally Mounted Backdraft Damper	622.52	82.83
23 33 13 23-0167 EA 50" x 6" Horizontally Mounted Backdraft Damper	262.69	27.61
23 33 13 23-0168 EA 50" x 8" Horizontally Mounted Backdraft Damper	251.99	35.55
23 33 13 23-0169 EA 50" x 10" Horizontally Mounted Backdraft Damper	300.18	39.46
23 33 13 23-0170 EA 50" x 12" Horizontally Mounted Backdraft Damper	286.04	43.37
23 33 13 23-0171 EA 50" x 14" Horizontally Mounted Backdraft Damper	323.85	47.40
23 33 13 23-0172 EA 50" x 16" Horizontally Mounted Backdraft Damper	361.63	51.31
23 33 13 23-0173 EA 50" x 18" Horizontally Mounted Backdraft Damper	399.44	55.22
23 33 13 23-0174 EA 50" x 20" Horizontally Mounted Backdraft Damper	385.33	59.25
23 33 13 23-0175 EA 50" x 24" Horizontally Mounted Backdraft Damper	438.70	63.16
23 33 13 23-0176 EA 50" x 28" Horizontally Mounted Backdraft Damper	492.08	67.07
23 33 13 23-0177 EA 50" x 32" Horizontally Mounted Backdraft Damper	503.93	70.98
23 33 13 23-0178 EA 50" x 36" Horizontally Mounted Backdraft Damper	552.12	75.01
23 33 13 23-0179 EA 50" x 40" Horizontally Mounted Backdraft Damper	548.40	78.92
23 33 13 23-0180 EA 50" x 44" Horizontally Mounted Backdraft Damper	579.52	78.92
23 33 13 23-0181 EA 50" x 48" Horizontally Mounted Backdraft Damper	622.52	82.83
23 33 13 23-0182 EA 50" x 50" Horizontally Mounted Backdraft Damper	638.08	82.83
23 33 13 23-0183 Vertically Mounted Backdraft Damper (23 33 13 23)		
Note: Galvanized steel frame, aluminum blades. Excludes motor pack.		
23 33 13 23-0184 EA 6" x 6" Vertically Mounted Backdraft Damper	114.13	13.16
23 33 13 23-0185 EA 8" x 6" Vertically Mounted Backdraft Damper	140.81	13.74
23 33 13 23-0186 EA 10" x 6" Vertically Mounted Backdraft Damper	145.21	13.86
23 33 13 23-0187 EA 8" x 8" Vertically Mounted Backdraft Damper	152.12	13.86
23 33 13 23-0188 EA 12" x 6" Vertically Mounted Backdraft Damper	167.15	14.23
23 33 13 23-0189 EA 10" x 8" Vertically Mounted Backdraft Damper	185.71	15.77
23 33 13 23-0190 EA 14" x 6" Vertically Mounted Backdraft Damper	187.89	14.23
23 33 13 23-0191 EA 12" x 8" Vertically Mounted Backdraft Damper	213.37	15.77
23 33 13 23-0192 EA 16" x 6" Vertically Mounted Backdraft Damper	215.74	16.59
23 33 13 23-0193 EA 10" x 10" Vertically Mounted Backdraft Damper	226.21	17.78
23 33 13 23-0194 EA 18" x 6" Vertically Mounted Backdraft Damper	181.52	15.05
23 33 13 23-0195 EA 14" x 8" Vertically Mounted Backdraft Damper	191.32	16.59
23 33 13 23-0196 EA 12" x 10" Vertically Mounted Backdraft Damper	204.98	17.78
23 33 13 23-0197 EA 20" x 6" Vertically Mounted Backdraft Damper	210.90	19.79
23 33 13 23-0198 EA 16" x 8" Vertically Mounted Backdraft Damper	226.93	21.68
23 33 13 23-0199 EA 14" x 10" Vertically Mounted Backdraft Damper	224.32	15.77
23 33 13 23-0200 EA 12" x 12" Vertically Mounted Backdraft Damper	235.31	17.78
23 33 13 23-0201 EA 18" x 8" Vertically Mounted Backdraft Damper	204.11	19.79
23 33 13 23-0202 EA 24" x 6" Vertically Mounted Backdraft Damper	204.11	19.79
23 33 13 23-0203 EA 16" x 10" Vertically Mounted Backdraft Damper	226.11	21.68
23 33 13 23-0204 EA 20" x 8" Vertically Mounted Backdraft Damper	232.04	23.70
23 33 13 23-0205 EA 14" x 12" Vertically Mounted Backdraft Damper	218.74	16.59
23 33 13 23-0206 EA 28" x 6" Vertically Mounted Backdraft Damper	222.30	17.78
23 33 13 23-0207 EA 18" x 10" Vertically Mounted Backdraft Damper	240.29	19.79
23 33 13 23-0208 EA 16" x 12" Vertically Mounted Backdraft Damper	258.29	21.68
23 33 13 23-0209 EA 24" x 8" Vertically Mounted Backdraft Damper	264.22	23.70
23 33 13 23-0210 EA 32" x 6" Vertically Mounted Backdraft Damper	270.13	25.60
23 33 13 23-0211 EA 14" x 14" Vertically Mounted Backdraft Damper	286.02	29.63
23 33 13 23-0212 EA 20" x 10" Vertically Mounted Backdraft Damper	282.00	31.52
23 33 13 23-0213 EA 18" x 12" Vertically Mounted Backdraft Damper	308.83	35.55



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 13 23-0214	EA		36" x 6" Vertically Mounted Backdraft Damper	255.51	17.78
23 33 13 23-0215	EA		16" x 14" Vertically Mounted Backdraft Damper	298.92	19.79
23 33 13 23-0216	EA		28" x 8" Vertically Mounted Backdraft Damper	274.85	21.68
23 33 13 23-0217	EA		20" x 12" Vertically Mounted Backdraft Damper	295.74	23.70
23 33 13 23-0218	EA		24" x 10" Vertically Mounted Backdraft Damper	301.65	25.60
23 33 13 23-0219	EA		40" x 6" Vertically Mounted Backdraft Damper	307.58	27.61
23 33 13 23-0220	EA		18" x 14" Vertically Mounted Backdraft Damper	330.68	31.52
23 33 13 23-0221	EA		16" x 16" Vertically Mounted Backdraft Damper	334.41	31.52
23 33 13 23-0222	EA		32" x 8" Vertically Mounted Backdraft Damper	346.26	35.55
23 33 13 23-0223	EA		44" x 6" Vertically Mounted Backdraft Damper	365.60	39.46
23 33 13 23-0224	EA		20" x 14" Vertically Mounted Backdraft Damper	392.43	43.37
23 33 13 23-0225	EA		28" x 10" Vertically Mounted Backdraft Damper	404.28	47.40
23 33 13 23-0226	EA		18" x 16" Vertically Mounted Backdraft Damper	328.83	19.79
23 33 13 23-0227	EA		24" x 12" Vertically Mounted Backdraft Damper	334.76	21.68
23 33 13 23-0228	EA		36" x 8" Vertically Mounted Backdraft Damper	340.69	23.70
23 33 13 23-0229	EA		48" x 6" Vertically Mounted Backdraft Damper	346.60	25.60
23 33 13 23-0230	EA		50" x 6" Vertically Mounted Backdraft Damper	369.67	29.63
23 33 13 23-0231	EA		20" x 16" Vertically Mounted Backdraft Damper	394.31	31.52
23 33 13 23-0232	EA		32" x 10" Vertically Mounted Backdraft Damper	406.16	35.55
23 33 13 23-0233	EA		40" x 8" Vertically Mounted Backdraft Damper	406.16	35.55
23 33 13 23-0234	EA		18" x 18" Vertically Mounted Backdraft Damper	358.11	39.46
23 33 13 23-0235	EA		24" x 14" Vertically Mounted Backdraft Damper	336.69	43.37
23 33 13 23-0236	EA		28" x 12" Vertically Mounted Backdraft Damper	348.54	47.40
23 33 13 23-0237	EA		44" x 8" Vertically Mounted Backdraft Damper	370.21	51.31
23 33 13 23-0238	EA		18" x 20" Vertically Mounted Backdraft Damper	386.98	55.22
23 33 13 23-0239	EA		20" x 18" Vertically Mounted Backdraft Damper	398.83	59.25
23 33 13 23-0240	EA		36" x 10" Vertically Mounted Backdraft Damper	398.83	59.25
23 33 13 23-0241	EA		24" x 16" Vertically Mounted Backdraft Damper	295.07	19.79
23 33 13 23-0242	EA		32" x 12" Vertically Mounted Backdraft Damper	301.00	21.68
23 33 13 23-0243	EA		48" x 8" Vertically Mounted Backdraft Damper	312.84	25.60
23 33 13 23-0244	EA		28" x 14" Vertically Mounted Backdraft Damper	329.60	29.63
23 33 13 23-0245	EA		20" x 20" Vertically Mounted Backdraft Damper	340.45	31.52
23 33 13 23-0246	EA		40" x 10" Vertically Mounted Backdraft Damper	352.30	35.55
23 33 13 23-0247	EA		50" x 8" Vertically Mounted Backdraft Damper	364.15	39.46
23 33 13 23-0248	EA		18" x 24" Vertically Mounted Backdraft Damper	383.80	39.46
23 33 13 23-0249	EA		24" x 18" Vertically Mounted Backdraft Damper	395.65	43.37
23 33 13 23-0250	EA		36" x 12" Vertically Mounted Backdraft Damper	407.50	47.40
23 33 13 23-0251	EA		44" x 10" Vertically Mounted Backdraft Damper	424.26	51.31
23 33 13 23-0252	EA		28" x 16" Vertically Mounted Backdraft Damper	452.88	59.25
23 33 13 23-0253	EA		32" x 14" Vertically Mounted Backdraft Damper	452.88	59.25
23 33 13 23-0254	EA		20" x 24" Vertically Mounted Backdraft Damper	486.84	63.16
23 33 13 23-0255	EA		24" x 20" Vertically Mounted Backdraft Damper	453.44	67.07
23 33 13 23-0256	EA		40" x 12" Vertically Mounted Backdraft Damper	453.44	67.07
23 33 13 23-0257	EA		48" x 10" Vertically Mounted Backdraft Damper	465.29	70.98
23 33 13 23-0258	EA		50" x 10" Vertically Mounted Backdraft Damper	475.79	70.98
23 33 13 23-0259	EA		28" x 18" Vertically Mounted Backdraft Damper	329.75	21.68
23 33 13 23-0260	EA		36" x 14" Vertically Mounted Backdraft Damper	341.59	25.60
23 33 13 23-0261	EA		32" x 16" Vertically Mounted Backdraft Damper	351.74	27.61
23 33 13 23-0262	EA		44" x 12" Vertically Mounted Backdraft Damper	371.96	31.52
23 33 13 23-0263	EA		20" x 28" Vertically Mounted Backdraft Damper	400.61	35.55
23 33 13 23-0264	EA		28" x 20" Vertically Mounted Backdraft Damper	412.46	39.46
23 33 13 23-0265	EA		40" x 14" Vertically Mounted Backdraft Damper	412.46	39.46
23 33 13 23-0266	EA		24" x 24" Vertically Mounted Backdraft Damper	432.71	43.37
23 33 13 23-0267	EA		32" x 18" Vertically Mounted Backdraft Damper	444.56	47.40
23 33 13 23-0268	EA		36" x 16" Vertically Mounted Backdraft Damper	456.41	51.31
23 33 13 23-0269	EA		48" x 12" Vertically Mounted Backdraft Damper	480.11	59.25
23 33 13 23-0270	EA		50" x 12" Vertically Mounted Backdraft Damper	492.73	59.25
23 33 13 23-0271	EA		44" x 14" Vertically Mounted Backdraft Damper	512.98	63.16
23 33 13 23-0272	EA		20" x 32" Vertically Mounted Backdraft Damper	537.43	67.07
23 33 13 23-0273	EA		32" x 20" Vertically Mounted Backdraft Damper	549.28	70.98
23 33 13 23-0274	EA		40" x 16" Vertically Mounted Backdraft Damper	549.28	70.98
23 33 13 23-0275	EA		36" x 18" Vertically Mounted Backdraft Damper	565.31	75.01
23 33 13 23-0276	EA		24" x 28" Vertically Mounted Backdraft Damper	580.02	75.01
23 33 13 23-0277	EA		28" x 24" Vertically Mounted Backdraft Damper	561.44	78.92
23 33 13 23-0278	EA		48" x 14" Vertically Mounted Backdraft Damper	561.44	78.92
23 33 13 23-0279	EA		50" x 14" Vertically Mounted Backdraft Damper	586.82	82.83
23 33 13 23-0280	EA		44" x 16" Vertically Mounted Backdraft Damper	405.06	21.68
23 33 13 23-0281	EA		20" x 36" Vertically Mounted Backdraft Damper	430.57	27.61
23 33 13 23-0282	EA		36" x 20" Vertically Mounted Backdraft Damper	442.42	31.52
23 33 13 23-0283	EA		40" x 18" Vertically Mounted Backdraft Damper	454.27	35.55
23 33 13 23-0284	EA		24" x 32" Vertically Mounted Backdraft Damper	489.29	39.46
23 33 13 23-0285	EA		32" x 24" Vertically Mounted Backdraft Damper	489.29	39.46
23 33 13 23-0286	EA		48" x 16" Vertically Mounted Backdraft Damper	501.14	43.37
23 33 13 23-0287	EA		28" x 28" Vertically Mounted Backdraft Damper	520.72	47.40
23 33 13 23-0288	EA		44" x 18" Vertically Mounted Backdraft Damper	536.42	51.31
23 33 13 23-0289	EA		40" x 20" Vertically Mounted Backdraft Damper	563.98	59.25
23 33 13 23-0290	EA		50" x 16" Vertically Mounted Backdraft Damper	563.98	59.25
23 33 13 23-0291	EA		24" x 36" Vertically Mounted Backdraft Damper	606.73	63.16
23 33 13 23-0292	EA		36" x 24" Vertically Mounted Backdraft Damper	618.59	67.07
23 33 13 23-0293	EA		48" x 18" Vertically Mounted Backdraft Damper	630.44	70.98
23 33 13 23-0294	EA		44" x 20" Vertically Mounted Backdraft Damper	650.03	75.01

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	UNIT COST
23 33 13 23-0295	EA	28" x 32" Vertically Mounted Backdraft Damper	657.76		75.01
23 33 13 23-0296	EA	32" x 28" Vertically Mounted Backdraft Damper	669.60		78.92
23 33 13 23-0297	EA	50" x 18" Vertically Mounted Backdraft Damper	671.51		78.92
23 33 13 23-0298	EA	24" x 40" Vertically Mounted Backdraft Damper	712.33		82.83
23 33 13 23-0299	EA	40" x 24" Vertically Mounted Backdraft Damper	712.33		82.83
23 33 13 23-0300	EA	48" x 20" Vertically Mounted Backdraft Damper	712.33		82.83
23 33 13 23-0301	EA	50" x 20" Vertically Mounted Backdraft Damper	553.91		23.70
23 33 13 23-0302	EA	28" x 36" Vertically Mounted Backdraft Damper	575.52		29.63
23 33 13 23-0303	EA	36" x 28" Vertically Mounted Backdraft Damper	581.45		31.52
23 33 13 23-0304	EA	32" x 32" Vertically Mounted Backdraft Damper	601.03		35.55
23 33 13 23-0305	EA	24" x 44" Vertically Mounted Backdraft Damper	573.21		39.46
23 33 13 23-0306	EA	44" x 24" Vertically Mounted Backdraft Damper	585.06		43.37
23 33 13 23-0307	EA	28" x 40" Vertically Mounted Backdraft Damper	624.45		47.40
23 33 13 23-0308	EA	40" x 28" Vertically Mounted Backdraft Damper	636.30		51.31
23 33 13 23-0309	EA	24" x 48" Vertically Mounted Backdraft Damper	661.95		55.22
23 33 13 23-0310	EA	32" x 36" Vertically Mounted Backdraft Damper	673.80		59.25
23 33 13 23-0311	EA	36" x 32" Vertically Mounted Backdraft Damper	685.65		63.16
23 33 13 23-0312	EA	48" x 24" Vertically Mounted Backdraft Damper	697.51		67.07
23 33 13 23-0313	EA	50" x 24" Vertically Mounted Backdraft Damper	730.02		70.98
23 33 13 23-0314	EA	28" x 44" Vertically Mounted Backdraft Damper	755.64		75.01
23 33 13 23-0315	EA	44" x 28" Vertically Mounted Backdraft Damper	755.64		75.01
23 33 13 23-0316	EA	32" x 40" Vertically Mounted Backdraft Damper	788.16		78.92
23 33 13 23-0317	EA	40" x 32" Vertically Mounted Backdraft Damper	628.18		25.60
23 33 13 23-0318	EA	36" x 36" Vertically Mounted Backdraft Damper	652.85		31.52
23 33 13 23-0319	EA	28" x 48" Vertically Mounted Backdraft Damper	685.35		35.55
23 33 13 23-0320	EA	48" x 28" Vertically Mounted Backdraft Damper	697.20		39.46
23 33 13 23-0321	EA	50" x 28" Vertically Mounted Backdraft Damper	733.16		43.37
23 33 13 23-0322	EA	32" x 44" Vertically Mounted Backdraft Damper	748.47		47.40
23 33 13 23-0323	EA	44" x 32" Vertically Mounted Backdraft Damper	748.47		47.40
23 33 13 23-0324	EA	36" x 40" Vertically Mounted Backdraft Damper	775.82		51.31
23 33 13 23-0325	EA	40" x 36" Vertically Mounted Backdraft Damper	735.80		59.25
23 33 13 23-0326	EA	28" x 52" Vertically Mounted Backdraft Damper	753.83		63.16
23 33 13 23-0327	EA	32" x 48" Vertically Mounted Backdraft Damper	796.69		67.07
23 33 13 23-0328	EA	48" x 32" Vertically Mounted Backdraft Damper	808.54		70.98
23 33 13 23-0329	EA	28" x 56" Vertically Mounted Backdraft Damper	832.80		75.01
23 33 13 23-0330	EA	36" x 44" Vertically Mounted Backdraft Damper	839.01		75.01
23 33 13 23-0331	EA	44" x 36" Vertically Mounted Backdraft Damper	850.85		78.92
23 33 13 23-0332	EA	40" x 40" Vertically Mounted Backdraft Damper	857.04		78.92
23 33 13 23-0333	EA	50" x 32" Vertically Mounted Backdraft Damper	702.99		27.61
23 33 13 23-0334	EA	32" x 52" Vertically Mounted Backdraft Damper	739.65		31.52
23 33 13 23-0335	EA	28" x 60" Vertically Mounted Backdraft Damper	757.69		35.55
23 33 13 23-0336	EA	36" x 48" Vertically Mounted Backdraft Damper	788.16		39.46
23 33 13 23-0337	EA	48" x 36" Vertically Mounted Backdraft Damper	800.01		43.37
23 33 13 23-0338	EA	40" x 44" Vertically Mounted Backdraft Damper	824.27		47.40
23 33 13 23-0339	EA	44" x 40" Vertically Mounted Backdraft Damper	836.12		51.31
23 33 13 23-0340	EA	32" x 56" Vertically Mounted Backdraft Damper	860.34		55.22
23 33 13 23-0341	EA	50" x 36" Vertically Mounted Backdraft Damper	797.79		59.25
23 33 13 23-0342	EA	36" x 52" Vertically Mounted Backdraft Damper	846.31		67.07
23 33 13 23-0343	EA	32" x 60" Vertically Mounted Backdraft Damper	874.69		70.98
23 33 13 23-0344	EA	40" x 48" Vertically Mounted Backdraft Damper	886.54		75.01
23 33 13 23-0345	EA	48" x 40" Vertically Mounted Backdraft Damper	886.54		75.01
23 33 13 23-0346	EA	44" x 44" Vertically Mounted Backdraft Damper	903.90		78.92
23 33 13 23-0347	EA	40" x 50" Vertically Mounted Backdraft Damper	937.80		82.83
23 33 13 23-0348	EA	50" x 40" Vertically Mounted Backdraft Damper	937.80		82.83
23 33 13 23-0349	EA	36" x 56" Vertically Mounted Backdraft Damper	777.39		27.61
23 33 13 23-0350	EA	32" x 64" Vertically Mounted Backdraft Damper	812.13		35.55
23 33 13 23-0351	EA	44" x 48" Vertically Mounted Backdraft Damper	846.03		39.46
23 33 13 23-0352	EA	48" x 44" Vertically Mounted Backdraft Damper	857.88		43.37
23 33 13 23-0353	EA	36" x 60" Vertically Mounted Backdraft Damper	886.26		47.40
23 33 13 23-0354	EA	32" x 68" Vertically Mounted Backdraft Damper	903.63		51.31
23 33 13 23-0355	EA	44" x 50" Vertically Mounted Backdraft Damper	829.01		55.22
23 33 13 23-0356	EA	50" x 44" Vertically Mounted Backdraft Damper	840.86		59.25
23 33 13 23-0357	EA	32" x 72" Vertically Mounted Backdraft Damper	884.04		63.16
23 33 13 23-0358	EA	36" x 64" Vertically Mounted Backdraft Damper	895.90		67.07
23 33 13 23-0359	EA	48" x 48" Vertically Mounted Backdraft Damper	907.75		70.98
23 33 13 23-0360	EA	48" x 50" Vertically Mounted Backdraft Damper	948.54		75.01
23 33 13 23-0361	EA	50" x 48" Vertically Mounted Backdraft Damper	960.38		78.92
23 33 13 23-0362	EA	36" x 68" Vertically Mounted Backdraft Damper	974.85		78.92
23 33 13 23-0363	EA	50" x 50" Vertically Mounted Backdraft Damper	1,002.38		82.83
23 33 13 23-0364	EA	36" x 72" Vertically Mounted Backdraft Damper	1,030.10		82.83
23 33 13 23-0365 Backdraft Damper Accessories (23 33 13 23)					
23 33 13 23-0366	EA	For Motor Pack For Horizontally Mounted Backdraft Damper	283.00		30.80
23 33 13 23-0367	EA	For Motor Pack For Vertically Mounted Backdraft Damper	486.21		30.80
23 33 13 33 Splitter Damper Hardware (23 33 13)					
23 33 13 33-0001	EA	Splitter Damper, Hardware	42.53		8.28



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

23 33 13 43 Blower Check Valve (23 33 13)

23 33 13 43-0001 Blower Check Valves With Silicone Seals (23 33 13 43)

23 33 13 43-0002	EA	2-1/2" Blower Check Valves, Silicone Seals	267.02	30.57
23 33 13 43-0003	EA	3" Blower Check Valves, Silicone Seals	298.16	34.84
23 33 13 43-0004	EA	4" Blower Check Valves, Silicone Seals	383.00	46.22
23 33 13 43-0005	EA	5" Blower Check Valves, Silicone Seals	529.01	53.33
23 33 13 43-0006	EA	6" Blower Check Valves, Silicone Seals	592.82	63.99
23 33 13 43-0007	EA	8" Blower Check Valves, Silicone Seals	883.35	81.05

23 33 13 43-0008 Blower Check Valves With Viton Seats (23 33 13 43)

23 33 13 43-0009	EA	2-1/2" Blower Check Valves, Viton Seats	369.05	30.57
23 33 13 43-0010	EA	3" Blower Check Valves, Viton Seats	419.42	34.84
23 33 13 43-0011	EA	4" Blower Check Valves, Viton Seats	467.43	46.22
23 33 13 43-0012	EA	5" Blower Check Valves, Viton Seats	655.42	53.33
23 33 13 43-0013	EA	6" Blower Check Valves, Viton Seats	732.35	63.99
23 33 13 43-0014	EA	8" Blower Check Valves, Viton Seats	1,130.18	81.05

23 33 19 Duct Silencers (23 33)

23 33 19 00-0001 36" Long Packaged Duct Sound Trap (23 33 19)

23 33 19 00-0002	EA	12" x 12" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	371.15	48.49
23 33 19 00-0003	EA	12" x 18" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	446.91	55.59
23 33 19 00-0004	EA	12" x 24" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	582.67	63.87
23 33 19 00-0005	EA	12" x 36" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	710.73	72.15
23 33 19 00-0006	EA	24" x 18" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	655.85	72.15
23 33 19 00-0007	EA	24" x 24" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	843.42	75.69
23 33 19 00-0008	EA	24" x 30" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	932.91	80.42
23 33 19 00-0009	EA	24" x 36" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	1,024.76	85.16
23 33 19 00-0010	EA	24" x 48" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	1,349.42	96.98
23 33 19 00-0011	EA	36" x 18" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	836.03	80.42
23 33 19 00-0012	EA	36" x 36" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	1,133.05	96.98
23 33 19 00-0013	EA	36" x 48" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	2,020.89	130.10
23 33 19 00-0014	EA	36" x 60" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	2,238.04	137.19
23 33 19 00-0015	EA	48" x 48" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	2,499.90	147.84
23 33 19 00-0016	EA	48" x 60" x 36" Long, Packaged Duct Sound Trap, Sound Attenuator	2,808.79	160.85

23 33 19 00-0017 60" Long Packaged Duct Sound Trap (23 33 19)

23 33 19 00-0018	EA	12" x 12" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	414.73	106.45
23 33 19 00-0019	EA	12" x 18" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	500.75	123.00
23 33 19 00-0020	EA	12" x 24" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	654.49	141.92
23 33 19 00-0021	EA	12" x 36" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	798.48	159.67
23 33 19 00-0022	EA	24" x 18" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	736.10	159.67
23 33 19 00-0023	EA	24" x 24" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	950.76	169.12
23 33 19 00-0024	EA	24" x 30" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	1,048.40	177.40
23 33 19 00-0025	EA	24" x 36" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	1,147.80	186.87
23 33 19 00-0026	EA	24" x 48" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	1,519.35	212.89
23 33 19 00-0027	EA	36" x 18" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	938.31	177.40
23 33 19 00-0028	EA	36" x 36" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	1,273.48	212.89
23 33 19 00-0029	EA	36" x 48" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	2,266.65	280.30
23 33 19 00-0030	EA	36" x 60" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	2,531.19	303.96
23 33 19 00-0031	EA	48" x 48" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	2,813.93	322.88
23 33 19 00-0032	EA	48" x 60" x 60" Long, Packaged Duct Sound Trap, Sound Attenuator	3,168.34	354.82

23 33 19 00-0033 84" Long Packaged Duct Sound Trap (23 33 19)

23 33 19 00-0034	EA	6" x 12" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	357.22	88.70
23 33 19 00-0035	EA	6" x 24" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	614.73	132.47
23 33 19 00-0036	EA	6" x 36" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	856.80	193.97
23 33 19 00-0037	EA	12" x 12" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	484.45	106.45
23 33 19 00-0038	EA	12" x 18" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	603.50	123.00
23 33 19 00-0039	EA	12" x 24" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	823.30	141.92
23 33 19 00-0040	EA	12" x 30" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	975.68	152.57
23 33 19 00-0041	EA	12" x 36" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,065.14	164.39
23 33 19 00-0042	EA	12" x 42" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,345.65	177.40
23 33 19 00-0043	EA	12" x 48" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,594.41	193.97
23 33 19 00-0044	EA	24" x 18" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	911.01	164.39
23 33 19 00-0045	EA	24" x 24" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,308.50	171.49
23 33 19 00-0046	EA	24" x 30" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,430.05	177.40
23 33 19 00-0047	EA	24" x 36" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,558.81	186.87
23 33 19 00-0048	EA	24" x 42" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	1,961.30	201.06
23 33 19 00-0049	EA	24" x 48" x 84" Long, Packaged Duct Sound Trap, Sound Attenuator	2,128.52	212.89

23 33 23 Turning Vanes (23 33)

23 33 23 00-0001 Duct Turning Vane Components (23 33 23)

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 23 00-0002	LF	Duct Turning Vane Rail..... <i>For Stainless Steel, Add</i>	13.11 9.07	2.96
23 33 23 00-0003	LF	Double Thick Factory Fabricated, Duct Turning Vane <i>For Stainless Steel, Add</i>	12.97 13.66	1.18
23 33 23 00-0004 Duct Turning Vane Sets (23 33 23)				
Note: Measured from inside corner to outside corner of ductwork.				
23 33 23 00-0005	LF	12" High Duct Turning Vanes, Sets <i>For Stainless Steel, Add</i>	59.82 62.75	4.43
23 33 23 00-0006	LF	14" High Duct Turning Vanes, Sets <i>For Stainless Steel, Add</i>	66.97 79.38	4.73
23 33 23 00-0007	LF	16" High Duct Turning Vanes, Sets <i>For Stainless Steel, Add</i>	91.75 111.14	4.96
23 33 23 00-0008	LF	18" High Duct Turning Vanes, Sets <i>For Stainless Steel, Add</i>	116.58 142.90	5.32
23 33 23 00-0009	LF	20" High Duct Turning Vanes, Sets <i>For Stainless Steel, Add</i>	129.22 158.76	5.68
23 33 23 00-0010	LF	22" High Duct Turning Vanes, Sets <i>For Stainless Steel, Add</i>	165.43 206.43	5.32
23 33 23 00-0011	LF	24" High Duct Turning Vanes, Sets <i>For Stainless Steel, Add</i>	203.31 254.05	6.26
23 33 23 00-0012	LF	26" High Duct Turning Vanes, Sets <i>For Stainless Steel, Add</i>	218.32 273.17	6.56
23 33 23 00-0013	LF	30" High Duct Turning Vanes, Sets <i>For Stainless Steel, Add</i>	243.87 305.96	6.81
23 33 33 Duct-Mounting Access Doors (23 33)				
23 33 33 00-0001 Duct Access Doors, Insulated Factory Fabrication (23 33 33)				
23 33 33 00-0002	EA	6" x 6" Duct Access Doors Insulated Factory Fabrication <i>For Stainless Steel, Add</i>	94.89 56.72	16.56
23 33 33 00-0003	EA	10" x 10" Duct Access Doors Insulated Factory Fabrication <i>For Stainless Steel, Add</i>	100.84 68.62	16.56
23 33 33 00-0004	EA	12" x 12" Duct Access Doors Insulated Factory Fabrication <i>For Stainless Steel, Add</i>	103.75 74.44	16.56
23 33 33 00-0005	EA	12" x 18" Duct Access Doors Insulated Factory Fabrication <i>For Stainless Steel, Add</i>	134.37 104.98	20.11
23 33 33 00-0006	EA	16" x 12" Duct Access Doors Insulated Factory Fabrication <i>For Stainless Steel, Add</i>	135.55 107.34	20.11
23 33 33 00-0007	EA	18" x 18" Duct Access Doors Insulated Factory Fabrication <i>For Stainless Steel, Add</i>	168.22 123.54	27.20
23 33 33 00-0008	EA	24" x 18" Duct Access Doors Insulated Factory Fabrication <i>For Stainless Steel, Add</i>	199.56 133.02	33.11
23 33 33 00-0009	EA	24" x 24" Duct Access Doors Insulated Factory Fabrication <i>For Stainless Steel, Add</i>	259.07 163.34	44.94
23 33 43 Flexible Connectors (23 33)				
23 33 43 00-0001	LF	6-1/2" Width, Galvanized Steel, Flexible Duct Connector 23 33 43 00-0002 LF 6-3/4" Width, Vinyl/Steel, Flexible Duct Connector	15.11 15.54	3.54 3.19
23 33 46 Flexible Ducts (23 33)				
23 33 46 00-0001 Flexible Duct, R8.0 Insulated With Metallized Outer Jacket (23 33 46)				
Note: Polyester inner liner encapsulating a corrosion resistant steel wire helix, supporting a blanket of fiberglass insulation over a fiberglass scrim and a bi-directional reinforced metallized outer vapor barrier jacket.				
23 33 46 00-0002	LF	4" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket <i>For R6.0 Insulated Flexible Duct, Deduct</i> <i>For R4.2 Insulated Flexible Duct, Deduct</i>	9.11 -1.07 -1.24	1.18
23 33 46 00-0003	LF	5" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket <i>For R6.0 Insulated Flexible Duct, Deduct</i> <i>For R4.2 Insulated Flexible Duct, Deduct</i>	10.02 -1.13 -1.32	2.37
23 33 46 00-0004	LF	6" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket <i>For R6.0 Insulated Flexible Duct, Deduct</i> <i>For R4.2 Insulated Flexible Duct, Deduct</i>	11.17 -1.15 -1.34	2.37
23 33 46 00-0005	LF	7" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket <i>For R6.0 Insulated Flexible Duct, Deduct</i> <i>For R4.2 Insulated Flexible Duct, Deduct</i>	12.92 -1.29 -1.50	2.37
23 33 46 00-0006	LF	8" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket <i>For R6.0 Insulated Flexible Duct, Deduct</i> <i>For R4.2 Insulated Flexible Duct, Deduct</i>	14.97 -1.30 -1.52	3.54
23 33 46 00-0007	LF	10" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket <i>For R6.0 Insulated Flexible Duct, Deduct</i> <i>For R4.2 Insulated Flexible Duct, Deduct</i>	19.43 -1.75 -2.04	3.54



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 46 00-0008	LF		12" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket.....	25.85	4.73
			For R6.0 Insulated Flexible Duct, Deduct	-2.08	
			For R4.2 Insulated Flexible Duct, Deduct	-2.43	
23 33 46 00-0009	LF		14" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket.....	32.12	4.73
			For R6.0 Insulated Flexible Duct, Deduct	-2.54	
			For R4.2 Insulated Flexible Duct, Deduct	-2.96	
23 33 46 00-0010	LF		16" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket.....	41.69	5.91
			For R6.0 Insulated Flexible Duct, Deduct	-3.03	
			For R4.2 Insulated Flexible Duct, Deduct	-3.54	
23 33 46 00-0011	LF		18" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket.....	51.02	7.68
			For R6.0 Insulated Flexible Duct, Deduct	-3.95	
			For R4.2 Insulated Flexible Duct, Deduct	-4.61	
23 33 46 00-0012	LF		20" Diameter Flexible Duct, R8.0 Insulated With Polyester Inner Liner Over Fiberglass Insulation And Metallized Outer Jacket.....	61.24	8.28
			For R6.0 Insulated Flexible Duct, Deduct	-5.96	
			For R4.2 Insulated Flexible Duct, Deduct	-6.95	
23 33 46 00-0013			Collars, Sheet Metal Spin-In Type With Damper (23 33 46)		
23 33 46 00-0014	EA		Up To 4" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper.....	50.91	7.10
			For Stainless Steel, Add	31.59	
23 33 46 00-0015	EA		5" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper.....	55.03	8.28
			For Stainless Steel, Add	32.01	
23 33 46 00-0016	EA		6" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper.....	62.63	8.28
			For Stainless Steel, Add	35.30	
23 33 46 00-0017	EA		7" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper.....	70.60	10.64
			For Stainless Steel, Add	36.43	
23 33 46 00-0018	EA		8" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper.....	84.87	13.01
			For Stainless Steel, Add	41.15	
23 33 46 00-0019	EA		10" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper.....	99.85	15.38
			For Stainless Steel, Add	50.73	
23 33 46 00-0020	EA		12" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper.....	113.01	17.74
			For Stainless Steel, Add	54.65	
23 33 46 00-0021	EA		14" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper.....	134.24	20.11
			For Stainless Steel, Add	68.43	
23 33 46 00-0022	EA		16" Diameter Flexible Duct Collar, Spin In Type, Sheet Metal, With Damper.....	146.29	22.47
			For Stainless Steel, Add	74.87	
23 33 53			Duct Liners (23 33)		
23 33 53 00-0001			Fiberglass Duct Liner Board, Rigid, Acoustical Insulation (23 33 53)		
23 33 53 00-0002	SF		1/2" Field Installed, 3 LB/CF, Fiberglass Duct Liner Board.....	12.98	3.22
23 33 53 00-0003	SF		3/4" Field Installed, 3 LB/CF, Fiberglass Duct Liner Board.....	14.16	3.22
23 33 53 00-0004	SF		1" Field Installed, 3 LB/CF, Fiberglass Duct Liner Board.....	15.78	4.30
23 33 53 00-0005	SF		1-1/2" Field Installed, 3 LB/CF, Fiberglass Duct Liner Board.....	19.39	4.30
23 33 53 00-0006	SF		2" Field Installed, 3 LB/CF, Fiberglass Duct Liner Board.....	23.39	4.84
23 33 53 00-0007	SF		1/2" Shop Installed, 3 LB/CF, Fiberglass Duct Liner Board.....	12.56	3.54
23 33 53 00-0008	SF		3/4" Shop Installed, 3 LB/CF, Fiberglass Duct Liner Board.....	13.70	3.54
23 33 53 00-0009	SF		1" Shop Installed, 3 LB/CF, Fiberglass Duct Liner Board.....	15.31	4.73
23 33 53 00-0010	SF		1-1/2" Shop Installed, 3 LB/CF, Fiberglass Duct Liner Board.....	18.71	4.73
23 33 53 00-0011	SF		2" Shop Installed, 3 LB/CF, Fiberglass Duct Liner Board.....	22.66	5.32
23 33 53 00-0012			Fiberglass Duct Liner Blanket, Flexible, Acoustical Insulation (23 33 53)		
23 33 53 00-0013	SF		1/2", R2, 2 LB/CF, T200, Fiberglass Duct Liner Blanket.....	3.18	2.84
23 33 53 00-0014	SF		1", R3.8, 1.5 LB/CF, T150, Fiberglass Duct Liner Blanket.....	3.86	3.19
23 33 53 00-0015	SF		1", R4.1, 2 LB/CF, T200, Fiberglass Duct Liner Blanket.....	4.77	3.19
23 33 53 00-0016	SF		1", R4.3, 3 LB/CF, T300, Fiberglass Duct Liner Blanket.....	6.29	3.19
23 33 53 00-0017	SF		1-1/2", T150, 1.5 LB/CF, Fiberglass Duct Liner Blanket.....	5.15	3.54
23 33 53 00-0018	SF		2", R7.7, 1.5 LB/CF, T150 Fiberglass Duct Liner Blanket.....	5.46	3.91
23 33 53 00-0019	SF		2", R8, 2 LB/CF, T200 Fiberglass Duct Liner Blanket.....	8.74	3.91
23 33 56			Duct Air Extractors (23 33)		
23 33 56 00-0001	EA		12" x 4" Duct Air Extractor.....	58.55	19.52
			For Stainless Steel, Add	25.38	
23 33 56 00-0002	EA		8" x 6" Duct Air Extractor.....	62.10	21.29
			For Stainless Steel, Add	25.38	
23 33 56 00-0003	EA		12" x 6" Duct Air Extractor.....	71.95	22.47
			For Stainless Steel, Add	35.11	
23 33 56 00-0004	EA		16" x 6" Duct Air Extractor.....	81.57	23.66
			For Stainless Steel, Add	44.54	
23 33 56 00-0005	EA		24" x 6" Duct Air Extractor.....	108.60	26.02
			For Stainless Steel, Add	73.54	
23 33 56 00-0006	EA		12" x 8" Duct Air Extractor.....	77.59	23.66
			For Stainless Steel, Add	39.36	
23 33 56 00-0007	EA		20" x 8" Duct Air Extractor.....	102.95	29.57
			For Stainless Steel, Add	56.97	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 33 Air Duct Accessories**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 33 56 00-0008 EA 18" x 10" Duct Air Extractor For Stainless Steel, Add	110.44 55.94	33.71
23 33 56 00-0009 EA 24" x 10" Duct Air Extractor For Stainless Steel, Add	135.01 72.50	39.61
23 33 56 00-0010 EA 24" x 12" Duct Air Extractor For Stainless Steel, Add	154.37 77.69	47.31
23 33 56 00-0011 EA 30" x 12" Duct Air Extractor For Stainless Steel, Add	193.17 97.37	59.13
23 33 59 Duct Pressure Relief Doors (23 33)		
23 33 59 00-0001 Duct Pressure Relief Doors (23 33 59)		
23 33 59 00-0002 EA 18" x 18" Duct Pressure Relief Door (Ruskin PRD18)	1,239.64	35.48
23 33 59 00-0003 EA 24" x 10" Duct Pressure Relief Door (Ruskin PRD18)	1,018.40	29.57
23 33 59 00-0004 EA 24" x 12" Duct Pressure Relief Door (Ruskin PRD18)	1,006.28	32.53
23 34 HVAC Fans (23 30)		
23 34 13 Axial HVAC Fans (23 34)		
23 34 13 00-0001 Tube-Axial Fans (23 34 13)		
23 34 13 00-0002 Direct Drive Tube-Axial Duct Fans (23 34 13 00-0001)		
23 34 13 00-0003 EA 12" Direct Drive Axial Flow Fan, 1/6 HP 1,060 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	1,887.45 92.79 185.57 255.16	363.45
23 34 13 00-0004 EA 12" Direct Drive Axial Flow Fan, 1/2 HP 2,095 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	1,970.29 99.41 198.83 273.39	364.54
23 34 13 00-0005 EA 16" Direct Drive Axial Flow Fan, 1/3 HP 2,490 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	2,135.98 112.67 225.34 309.84	363.45
23 34 13 00-0006 EA 20" Direct Drive Axial Flow Fan, 3/4 HP 4,130 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	2,301.67 125.92 251.85 346.29	364.54
23 34 13 00-0007 EA 22" Direct Drive Axial Flow Fan, 3/4 HP 4,700 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	2,695.72 145.81 291.61 400.97	436.58
23 34 13 00-0008 EA 24" Direct Drive Axial Flow Fan, 1 HP 5,850 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	3,103.03 172.32 344.63 473.87	474.78
23 34 13 00-0009 EA 24" Direct Drive Axial Flow Fan, 1-1/2 HP 7,925 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	3,276.26 178.94 357.89 492.09	519.53
23 34 13 00-0010 EA 30" Direct Drive Axial Flow Fan, 1 HP 10,640 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	3,742.46 212.08 424.16 583.22	545.72
23 34 13 00-0011 EA 30" Direct Drive Axial Flow Fan, 2-1/2 HP 14,765 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	4,512.39 251.85 503.69 692.58	682.15
23 34 13 00-0012 EA 36" Direct Drive Axial Flow Fan, 2 HP 16,780 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	5,100.41 291.61 583.22 801.93	727.99
23 34 13 00-0013 EA 36" Direct Drive Axial Flow Fan, 5 HP 22,920 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	5,987.05 344.63 689.26 947.74	839.32
23 34 13 00-0014 Belt Drive Tube-Axial Duct Fans (23 34 13 00-0001)		
23 34 13 00-0015 EA 15" Belt Drive Axial Flow Fan, 1/3 HP 2,800 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	1,789.21 86.80 173.61 238.71	352.54
23 34 13 00-0016 EA 15" Belt Drive Axial Flow Fan, 1/2 HP 3,400 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	1,898.35 93.66 187.32 257.56	364.54
23 34 13 00-0017 EA 18" Belt Drive Axial Flow Fan, 1/3 HP 3,280 CFM Constant Speed, 1/8" Static Pressure..... For 1/4" Static Pressure, Add For 3/8" Static Pressure, Add For 1/2" Static Pressure, Add	1,961.51 96.70 193.41 265.93	376.54



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 13 00-0018	EA		18" Belt Drive Axial Flow Fan, 1/2 HP 3,900 CFM Constant Speed, 1/8" Static Pressure.....	2,077.22	389.65
			For 1/4" Static Pressure, Add	103.81	
			For 3/8" Static Pressure, Add	207.62	
			For 1/2" Static Pressure, Add	285.48	
23 34 13 00-0019	EA		18" Belt Drive Axial Flow Fan, 1 HP 5,250 CFM Constant Speed, 1/8" Static Pressure.....	2,347.22	404.92
			For 1/4" Static Pressure, Add	123.10	
			For 3/8" Static Pressure, Add	246.20	
			For 1/2" Static Pressure, Add	338.53	
23 34 13 00-0020	EA		24" Belt Drive Axial Flow Fan, 1/2 HP 4,800 CFM Constant Speed, 1/8" Static Pressure.....	2,476.67	420.20
			For 1/4" Static Pressure, Add	130.97	
			For 3/8" Static Pressure, Add	261.94	
			For 1/2" Static Pressure, Add	360.16	
23 34 13 00-0021	EA		24" Belt Drive Axial Flow Fan, 1 HP 6,430 CFM Constant Speed, 1/8" Static Pressure.....	2,776.75	436.58
			For 1/4" Static Pressure, Add	152.29	
			For 3/8" Static Pressure, Add	304.58	
			For 1/2" Static Pressure, Add	418.79	
23 34 13 00-0022	EA		24" Belt Drive Axial Flow Fan, 2 HP 8,860 CFM Constant Speed, 1/8" Static Pressure.....	3,139.84	436.58
			For 1/4" Static Pressure, Add	181.45	
			For 3/8" Static Pressure, Add	362.89	
			For 1/2" Static Pressure, Add	498.98	
23 34 13 00-0023	EA		30" Belt Drive Axial Flow Fan, 1 HP 9,250 CFM Constant Speed, 1/8" Static Pressure.....	3,644.20	474.78
			For 1/4" Static Pressure, Add	215.74	
			For 3/8" Static Pressure, Add	431.48	
			For 1/2" Static Pressure, Add	593.29	
23 34 13 00-0024	EA		30" Belt Drive Axial Flow Fan, 5 HP 16,900 CFM Constant Speed, 1/8" Static Pressure.....	4,319.14	575.19
			For 1/4" Static Pressure, Add	253.81	
			For 3/8" Static Pressure, Add	507.63	
			For 1/2" Static Pressure, Add	697.99	
23 34 13 00-0025	EA		30" Belt Drive Axial Flow Fan, 5 HP 16,150 CFM Constant Speed, 1/8" Static Pressure.....	4,931.45	575.19
			For 1/4" Static Pressure, Add	302.41	
			For 3/8" Static Pressure, Add	604.82	
			For 1/2" Static Pressure, Add	831.63	
23 34 13 00-0026	EA		36" Belt Drive Axial Flow Fan, 3/4 HP 8,090 CFM Constant Speed, 1/8" Static Pressure.....	5,433.51	606.84
			For 1/4" Static Pressure, Add	337.66	
			For 3/8" Static Pressure, Add	675.33	
			For 1/2" Static Pressure, Add	928.58	
23 34 13 00-0027	EA		36" Belt Drive Axial Flow Fan, 2 HP 14,475 CFM Constant Speed, 1/8" Static Pressure.....	5,938.47	641.77
			For 1/4" Static Pressure, Add	372.60	
			For 3/8" Static Pressure, Add	745.19	
			For 1/2" Static Pressure, Add	1,024.64	
23 34 13 00-0028	EA		36" Belt Drive Axial Flow Fan, 7-1/2 HP 14,475 CFM Constant Speed, 1/8" Static Pressure.....	6,750.27	839.32
			For 1/4" Static Pressure, Add	406.10	
			For 3/8" Static Pressure, Add	812.20	
			For 1/2" Static Pressure, Add	1,116.78	
23 34 13 00-0029	EA		36" Belt Drive Axial Flow Fan, 5 HP 20,080 CFM Constant Speed, 1/8" Static Pressure.....	7,722.22	840.41
			For 1/4" Static Pressure, Add	483.86	
			For 3/8" Static Pressure, Add	967.72	
			For 1/2" Static Pressure, Add	1,330.61	
23 34 13 00-0030	EA		42" Belt Drive Axial Flow Fan, 7-1/2 HP 29,000 CFM Constant Speed, 1/8" Static Pressure.....	8,716.21	991.90
			For 1/4" Static Pressure, Add	539.12	
			For 3/8" Static Pressure, Add	1,078.23	
			For 1/2" Static Pressure, Add	1,482.57	
23 34 16 Centrifugal HVAC Fans (23 34)					
23 34 16 00-0001 Centrifugal Fans (23 34 16)					
Note: All belt fans to be supplied with belt guard.					
23 34 16 00-0002 Utility Backward Inclined Steel Wheel Centrifugal Fans (23 34 16 00-0001)					
Note: V-belt driven.					
23 34 16 00-0003 Industrial Type Utility Backward Centrifugal Fans (23 34 16 00-0002)					
Note: Under 30" diameter wheel.					
23 34 16 00-0004 12-1/4" Diameter Wheel 650 To 2,950 CFM At 1/8" Static Pressure (23 34 16 00-0003)					
23 34 16 00-0005	EA		1/6 HP, 12-1/4" Wheel, 450 To 1,750 CFM At 1/8" Static Pressure, Centrifugal Fan	1,214.71	239.79
23 34 16 00-0006	EA		1/4 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	1,739.19	248.85
23 34 16 00-0007	EA		1/3 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	1,789.80	198.31
23 34 16 00-0008	EA		1/2 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	1,869.06	271.77
23 34 16 00-0009	EA		3/4 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	1,915.21	288.14
23 34 16 00-0010	EA		1 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	1,976.57	300.15
23 34 16 00-0011	EA		1-1/2 HP, 12-1/4" Wheel, 650 To 2,950 CFM At 1/8" Static Pressure, Centrifugal Fan	2,038.60	319.80
23 34 16 00-0012 13-1/2" Diameter Wheel 734 To 3,343 CFM At 1/8" Static Pressure (23 34 16 00-0003)					
23 34 16 00-0013	EA		1/4 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,004.43	261.95
23 34 16 00-0014	EA		1/3 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,040.83	271.77
23 34 16 00-0015	EA		1/2 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,108.42	288.14
23 34 16 00-0016	EA		3/4 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,148.04	300.15
23 34 16 00-0017	EA		1 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,221.23	319.80
23 34 16 00-0018	EA		1-1/2 HP Centrifugal Fan, 13-1/2" Wheel, 734 - 3,343 CFM At 1/8" Static Pressure	2,293.80	335.07
23 34 16 00-0019 15" Diameter Wheel 1,258 To 4,146 CFM At 1/8" Static Pressure (23 34 16 00-0003)					

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 16 00-0020 EA 1/4 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,019.40	271.77
23 34 16 00-0021 EA 1/3 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,065.55	288.14
23 34 16 00-0022 EA 1/2 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,126.61	300.15
23 34 16 00-0023 EA 3/4 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,178.35	319.80
23 34 16 00-0024 EA 1 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,243.80	335.07
23 34 16 00-0025 EA 1-1/2 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,335.44	360.17
23 34 16 00-0026 EA 2 HP Centrifugal Fan, 15" Wheel, 1,258 - 4,146 CFM At 1/8" Static Pressure	2,407.02	378.73
23 34 16 00-0027 16-1/2" Diameter Wheel 977 To 4,711 CFM At 1/8" Static Pressure (23 34 16 00-0003)		
23 34 16 00-0028 EA 1/4 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,312.04	288.14
23 34 16 00-0029 EA 1/3 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,395.36	300.15
23 34 16 00-0030 EA 1/2 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,487.83	319.80
23 34 16 00-0031 EA 3/4 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,536.63	335.07
23 34 16 00-0032 EA 1 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,600.93	360.17
23 34 16 00-0033 EA 1-1/2 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,655.88	378.73
23 34 16 00-0034 EA 2 HP Centrifugal Fan, 16-1/2" Wheel, 977 - 4,711 CFM At 1/8" Static Pressure	2,949.25	411.47
23 34 16 00-0035 18-1/4" Diameter Wheel 2,193 To 6,498 CFM At 1/8" Static Pressure (23 34 16 00-0003)		
23 34 16 00-0036 EA 1/4 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,389.17	300.15
23 34 16 00-0037 EA 1/3 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,446.27	319.80
23 34 16 00-0038 EA 1/2 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,522.44	335.07
23 34 16 00-0039 EA 3/4 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,581.94	360.17
23 34 16 00-0040 EA 1 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,664.23	378.73
23 34 16 00-0041 EA 1-1/2 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,788.51	411.47
23 34 16 00-0042 EA 2 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,869.17	436.58
23 34 16 00-0043 EA 3 HP Centrifugal Fan, 18-1/4" Wheel, 2,193 - 6,498 CFM At 1/8" Static Pressure	2,989.51	480.24
23 34 16 00-0044 20" Diameter Wheel 2,412 To 7,364 CFM At 1/8" Static Pressure (23 34 16 00-0003)		
23 34 16 00-0045 EA 1/4 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	2,414.13	319.80
23 34 16 00-0046 EA 1/3 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	2,490.27	335.07
23 34 16 00-0047 EA 1/2 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	2,581.94	360.17
23 34 16 00-0048 EA 3/4 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	2,664.23	378.73
23 34 16 00-0049 EA 1 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	2,820.65	411.47
23 34 16 00-0050 EA 1-1/2 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	3,039.09	436.58
23 34 16 00-0051 EA 2 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	3,192.53	480.24
23 34 16 00-0052 EA 3 HP Centrifugal Fan, 20" Wheel, 2,412 - 7,364 CFM At 1/8" Static Pressure	3,351.67	514.07
23 34 16 00-0053 22-1/4" Diameter Wheel 2,265 To 8,483 CFM At 1/8" Static Pressure (23 34 16 00-0003)		
23 34 16 00-0054 EA 1/4 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	2,901.10	335.07
23 34 16 00-0055 EA 1/3 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	2,955.57	360.17
23 34 16 00-0056 EA 1/2 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,030.39	378.73
23 34 16 00-0057 EA 3/4 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,124.30	411.47
23 34 16 00-0058 EA 1 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,248.71	436.58
23 34 16 00-0059 EA 1-1/2 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,290.75	480.24
23 34 16 00-0060 EA 2 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,373.11	514.07
23 34 16 00-0061 EA 3 HP Centrifugal Fan, 22-1/4" Wheel, 2,265 - 8,483 CFM At 1/8" Static Pressure	3,520.23	576.28
23 34 16 00-0062 24-1/2" Diameter Wheel 3,055 To 11,380 CFM At 1/8" Static Pressure (23 34 16 00-0003)		
23 34 16 00-0063 EA 1/4 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	3,489.31	360.17
23 34 16 00-0064 EA 1/2 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	3,602.99	411.47
23 34 16 00-0065 EA 3/4 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	3,715.80	436.58
23 34 16 00-0066 EA 1 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	3,835.54	480.24
23 34 16 00-0067 EA 1-1/2 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	3,941.10	514.07
23 34 16 00-0068 EA 2 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	4,034.65	576.28
23 34 16 00-0069 EA 3 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	4,164.16	626.48
23 34 16 00-0070 EA 5 HP Centrifugal Fan, 24-1/2" Wheel, 3,055 - 11,380 CFM At 1/8" Static Pressure	4,467.27	720.36
23 34 16 00-0071 27" Diameter Wheel 2,734 To 13,266 CFM At 1/8" Static Pressure (23 34 16 00-0003)		
23 34 16 00-0072 EA 1/4 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	3,866.32	378.73
23 34 16 00-0073 EA 1/2 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	3,983.74	436.58
23 34 16 00-0074 EA 3/4 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,103.46	480.24
23 34 16 00-0075 EA 1 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,209.03	514.07
23 34 16 00-0076 EA 1-1/2 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,356.15	576.28
23 34 16 00-0077 EA 2 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,485.35	626.48
23 34 16 00-0078 EA 3 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,811.22	720.36
23 34 16 00-0079 EA 5 HP Centrifugal Fan, 27" Wheel, 2,734 - 13,266 CFM At 1/8" Static Pressure	4,856.47	800.03
23 34 16 00-0080 Large Industrial Type Utility Backward Centrifugal Fans (23 34 16 00-0002)		
Note: Over 30" diameter wheel.		
23 34 16 00-0081 30" Diameter Wheel 4,926 To 17,456 CFM At 1/8" Static Pressure (23 34 16 00-0080)		



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 16 00-0082	EA	1/2 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	5,416.30	480.24
23 34 16 00-0083	EA	3/4 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	5,517.64	514.07
23 34 16 00-0084	EA	1 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	5,674.34	576.28
23 34 16 00-0085	EA	1-1/2 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	5,814.25	626.48
23 34 16 00-0086	EA	2 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	6,021.24	720.36
23 34 16 00-0087	EA	3 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	6,206.80	800.03
23 34 16 00-0088	EA	5 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	6,513.66	960.47
23 34 16 00-0089	EA	7-1/2 HP Centrifugal Fan, 30" Wheel, 4,926 - 17,456 CFM At 1/8" Static Pressure	6,796.69	1,107.82
23 34 16 00-0090		33" Diameter Wheel 5,734 To 19,799 CFM At 1/8" Static Pressure (23 34 16 00-0090)		
23 34 16 00-0091	EA	1/2 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	6,352.43	514.07
23 34 16 00-0092	EA	3/4 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	6,553.13	576.28
23 34 16 00-0093	EA	1 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	6,736.24	626.48
23 34 16 00-0094	EA	1-1/2 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	6,935.77	720.36
23 34 16 00-0095	EA	2 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	7,214.21	800.03
23 34 16 00-0096	EA	3 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	7,563.92	960.47
23 34 16 00-0097	EA	5 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	7,954.19	1,107.82
23 34 16 00-0098	EA	7-1/2 HP Centrifugal Fan, 33" Wheel, 5,734 - 19,799 CFM At 1/8" Static Pressure	8,505.90	1,440.70
23 34 16 00-0099		36-1/2" Diameter Wheel 5,388 To 22,500 CFM At 1/8" Static Pressure (23 34 16 00-0099)		
23 34 16 00-0100	EA	1/2 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	6,780.35	576.28
23 34 16 00-0101	EA	3/4 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	6,969.87	626.48
23 34 16 00-0102	EA	1 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	7,573.05	720.36
23 34 16 00-0103	EA	1-1/2 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	7,979.41	800.03
23 34 16 00-0104	EA	2 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	8,479.41	960.47
23 34 16 00-0105	EA	3 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	8,862.93	1,107.82
23 34 16 00-0106	EA	5 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	9,667.76	1,440.70
23 34 16 00-0107	EA	7-1/2 HP Centrifugal Fan, 36-1/2" Wheel, 5,388 - 22,500 CFM At 1/8" Static Pressure	10,341.51	1,800.88
23 34 16 00-0108		Kitchen System Fans (23 34 16 00-0001)		
23 34 16 00-0109		Upblast Kitchen Exhaust Fans (23 34 16 00-0108)		
23 34 16 00-0110		Direct Drive Kitchen Upblast Exhaust Fans (23 34 16 00-0109) Note: Greenheck CUE.		
23 34 16 00-0111	EA	Up To 12" Wheel Diameter, 1/6 HP Direct Drive, Kitchen Upblast Exhaust Fan	1,364.63	141.88
		Note: 115V. For roof or wall installations. Includes disconnect switch.		
		For Bird Screen, Add	61.24	
		For Backdraft Damper, Add	167.87	
		For Damper Motor, Add	275.98	
23 34 16 00-0112	EA	14" Wheel Diameter, 1/4 HP Direct Drive, Kitchen Upblast Exhaust Fan	1,607.91	141.88
		Note: 115V. For roof or wall installations. Includes disconnect switch.		
		For Bird Screen, Add	61.24	
		For Backdraft Damper, Add	167.87	
		For Damper Motor, Add	275.98	
23 34 16 00-0113		Belt Drive Kitchen Upblast Exhaust Fans (23 34 16 00-0109) Note: Greenheck CUBE.		
23 34 16 00-0114	EA	10" Diameter Wheel, Up To 1/3 HP, 1,458 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan	2,376.38	141.88
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	61.24	
		For Wall Mounted Fan, Add	95.06	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	177.87	
		For Backdraft Damper, Add	167.87	
		For Damper Motor, Add	275.98	
23 34 16 00-0115	EA	12" Diameter Wheel, 1/2 HP, 1,923 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan	2,481.96	141.88
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	61.24	
		For Wall Mounted Fan, Add	99.28	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	186.85	
		For Backdraft Damper, Add	167.87	
		For Damper Motor, Add	275.98	
23 34 16 00-0116	EA	14" Diameter Wheel, 1/3 HP, 2,006 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan	2,118.07	163.72
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	69.68	
		For Wall Mounted Fan, Add	84.72	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	152.20	
		For Backdraft Damper, Add	190.65	
		For Damper Motor, Add	275.98	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR		TOTAL DIRECT		DEMOLITION	
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	
23 34 16 00-0117	EA	14" Diameter Wheel, 1 HP, 2,757 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	2,270.10	163.72	
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.			
		For Bird Screen, Add	69.68		
		For Wall Mounted Fan, Add	90.80		
		For 3 Phase Motor, Deduct	-50.00		
		For Totally Enclosed Motor, Add	85.00		
		For Grease Trap Kit, Add	76.41		
		For Hinged Curb Kit, Add	165.13		
		For Backdraft Damper, Add	190.65		
		For Damper Motor, Add	275.98		
23 34 16 00-0118	EA	16" Diameter Wheel, 1/2 HP, 2,940 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	2,890.58	191.01	
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.			
		For Bird Screen, Add	69.68		
		For Wall Mounted Fan, Add	115.62		
		For 3 Phase Motor, Deduct	-50.00		
		For Totally Enclosed Motor, Add	85.00		
		For Grease Trap Kit, Add	76.41		
		For Hinged Curb Kit, Add	213.23		
		For Backdraft Damper, Add	190.65		
		For Damper Motor, Add	275.98		
23 34 16 00-0119	EA	16" Diameter Wheel, 1 HP, 3,129 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	3,053.17	191.01	
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.			
		For Bird Screen, Add	69.68		
		For Wall Mounted Fan, Add	122.13		
		For 3 Phase Motor, Deduct	-50.00		
		For Totally Enclosed Motor, Add	85.00		
		For Grease Trap Kit, Add	76.41		
		For Hinged Curb Kit, Add	227.05		
		For Backdraft Damper, Add	190.65		
		For Damper Motor, Add	275.98		
23 34 16 00-0120	EA	18" Diameter Wheel, 1/2 HP, 3,243 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	3,327.52	204.65	
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.			
		For Bird Screen, Add	116.14		
		For Wall Mounted Fan, Add	133.10		
		For 3 Phase Motor, Deduct	-50.00		
		For Totally Enclosed Motor, Add	85.00		
		For Grease Trap Kit, Add	76.41		
		For Hinged Curb Kit, Add	248.05		
		For Backdraft Damper, Add	239.44		
		For Damper Motor, Add	275.98		
23 34 16 00-0121	EA	18" Diameter Wheel, 1 HP, 4,223 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	3,580.91	204.65	
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.			
		For Bird Screen, Add	116.14		
		For Wall Mounted Fan, Add	143.24		
		For 3 Phase Motor, Deduct	-50.00		
		For Totally Enclosed Motor, Add	85.00		
		For Grease Trap Kit, Add	76.41		
		For Hinged Curb Kit, Add	269.59		
		For Backdraft Damper, Add	239.44		
		For Damper Motor, Add	275.98		
23 34 16 00-0122	EA	20" Diameter Wheel, 3/4 HP, 4,438 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	3,637.77	218.29	
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.			
		For Bird Screen, Add	116.14		
		For Wall Mounted Fan, Add	145.51		
		For 3 Phase Motor, Deduct	-50.00		
		For Totally Enclosed Motor, Add	85.00		
		For Grease Trap Kit, Add	76.41		
		For Hinged Curb Kit, Add	272.10		
		For Backdraft Damper, Add	239.44		
		For Damper Motor, Add	275.98		
23 34 16 00-0123	EA	20" Diameter Wheel, 2 HP, 6,450 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	3,994.63	218.29	
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.			
		For Bird Screen, Add	116.14		
		For Wall Mounted Fan, Add	159.79		
		For 3 Phase Motor, Deduct	-50.00		
		For Totally Enclosed Motor, Add	85.00		
		For Grease Trap Kit, Add	76.41		
		For Hinged Curb Kit, Add	302.43		
		For Backdraft Damper, Add	239.44		
		For Damper Motor, Add	275.98		
23 34 16 00-0124	EA	24" Diameter Wheel, 3/4 HP, 5,460 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	4,602.44	245.58	
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.			
		For Bird Screen, Add	137.25		
		For Wall Mounted Fan, Add	184.10		
		For 3 Phase Motor, Deduct	-50.00		
		For Totally Enclosed Motor, Add	85.00		
		For Grease Trap Kit, Add	76.41		
		For Hinged Curb Kit, Add	349.46		
		For Backdraft Damper, Add	259.34		
		For Damper Motor, Add	275.98		



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Fans			23 34

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
23 34 16 00-0125	EA	24" Diameter Wheel, 2 HP, 7,985 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	4,929.73	245.58
		Note: 115/208-230/60/1. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	137.25	
		For Wall Mounted Fan, Add	197.19	
		For 3 Phase Motor, Deduct	-50.00	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	377.28	
		For Backdraft Damper, Add	259.34	
		For Damper Motor, Add	275.98	
23 34 16 00-0126	EA	30" Diameter Wheel, 3/4 HP, 7,771 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	5,847.95	272.86
		Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	147.81	
		For Wall Mounted Fan, Add	233.92	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	450.69	
		For Backdraft Damper, Add	287.90	
		For Damper Motor, Add	275.98	
23 34 16 00-0127	EA	30" Diameter Wheel, 2 HP, 10,192 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	5,955.64	272.86
		Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	147.81	
		For Wall Mounted Fan, Add	238.23	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	459.84	
		For Backdraft Damper, Add	287.90	
		For Damper Motor, Add	275.98	
23 34 16 00-0128	EA	30" Diameter Wheel, 3 HP, 11,903 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	6,502.54	272.86
		Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	147.81	
		For Wall Mounted Fan, Add	260.10	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	506.33	
		For Backdraft Damper, Add	287.90	
		For Damper Motor, Add	275.98	
23 34 16 00-0129	EA	30" Diameter Wheel, 5 HP, 14,266 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	6,766.49	272.86
		Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	147.81	
		For Wall Mounted Fan, Add	270.66	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	528.77	
		For Backdraft Damper, Add	287.90	
		For Damper Motor, Add	275.98	
23 34 16 00-0130	EA	36" Diameter Wheel, 3 HP, 14,769 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	7,450.64	300.15
		Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	168.93	
		For Wall Mounted Fan, Add	298.03	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	582.28	
		For Damper Motor, Add	275.98	
		For Backdraft Damper, Add	339.97	
23 34 16 00-0131	EA	36" Diameter Wheel, 5 HP, 17,884 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	7,754.18	300.15
		Note: 115/208-230/60/3. Includes heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	168.93	
		For Wall Mounted Fan, Add	310.17	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	608.08	
		For Damper Motor, Add	275.98	
		For Backdraft Damper, Add	339.97	
23 34 16 00-0132	EA	42" Diameter Wheel, 3 HP, 17,316 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	7,817.27	327.43
		Note: 230/460/60/3. Includes birdscreen, heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	168.93	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	608.81	
		For Damper Motor, Add	275.98	
		For Backdraft Damper, Add	396.08	
23 34 16 00-0133	EA	42" Diameter Wheel, 7-1/2 HP, 24,604 CFM At 1/4" Static Pressure, Belt Drive, Kitchen Upblast Exhaust Fan.....	8,483.69	327.43
		Note: 230/460/60/3. Includes birdscreen, heat baffle, grease baffle and disconnect switch.		
		For Bird Screen, Add	168.93	
		For Totally Enclosed Motor, Add	85.00	
		For Grease Trap Kit, Add	76.41	
		For Hinged Curb Kit, Add	665.45	
		For Damper Motor, Add	275.98	
		For Backdraft Damper, Add	396.08	
23 34 16 00-0134		Untempered Kitchen Make-Up Air Fans (23 34 16 00-0108)		
		Note: Roof mounted with downblast discharge, weatherhood and filter.		
23 34 16 00-0135		Direct Drive Kitchen Make-Up Air Fans (23 34 16 00-0134)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 16 00-0136	EA	7" Diameter Wheel, 1/2 HP Direct Drive, Kitchen Make-Up Air Fan Note: 115V. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch. <i>For Extended Weatherhood, Add</i>	1,589.20 266.73	141.88
23 34 16 00-0137	EA	8" Diameter Wheel, 1 HP Direct Drive, Kitchen Make-Up Air Fan Note: 115V. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch. <i>For Extended Weatherhood, Add</i>	1,671.85 279.13	141.88
23 34 16 00-0138	EA	9" Diameter Wheel, 1 HP Direct Drive, Kitchen Make-Up Air Fan Note: 115V. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch. <i>For Extended Weatherhood, Add</i>	1,773.27 294.34	141.88
23 34 16 00-0139		Belt Drive Kitchen Make-Up Air Fans (23 34 16 00-0134)		
23 34 16 00-0140	EA	9" Diameter Wheel, 1/2 HP Belt Drive, Kitchen Make-Up Air Fan..... Note: 115/208-230/60/1. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch. <i>For Extended Weatherhood, Add</i>	1,812.61 300.24	141.88
23 34 16 00-0141	EA	10" Diameter Wheel, 1-1/2 HP Belt Drive, Kitchen Make-Up Air Fan Note: 115/208-230/60/1. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch. <i>For Extended Weatherhood, Add</i>	2,023.51 341.73	191.01
23 34 16 00-0142	EA	12" Diameter Wheel, 2 HP Belt Drive, Kitchen Make-Up Air Fan..... Note: 115/208-230/60/1. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch. <i>For Extended Weatherhood, Add</i>	2,442.60 410.05	218.29
23 34 16 00-0143	EA	15" Diameter Wheel, 3 HP Belt Drive, Kitchen Make-Up Air Fan..... Note: 230/460/60/3. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch. <i>For Extended Weatherhood, Add</i>	2,826.25 478.51	272.86
23 34 16 00-0144	EA	18" Diameter Wheel, 5 HP Belt Drive, Kitchen Make-Up Air Fan..... Note: 230/460/60/3. For roof installations. Includes downblast discharge, weatherhood, filter and disconnect switch. <i>For Extended Weatherhood, Add</i>	3,421.01 578.63	327.43
23 34 16 00-0145		Replacement Parts (23 34 16 00-0001)		
23 34 16 00-0146		Replace Belts And Accessories (23 34 16 00-0145)		
23 34 16 00-0147	EA	Fan Shaft Bearing, Replacement.....	829.14	366.40
23 34 16 00-0148	EA	Fan Belt, Replacement	137.96	49.69
23 34 16 00-0149		Corrosive Fume Resistant Plastic (23 34 16 00-0001)		
23 34 16 00-0150		Centrifugal Roof Ventilators, Belt Drive, 1/4" Static Pressure (23 34 16 00-0149)		
23 34 16 00-0151	EA	250 CFM, 1/4 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	6,297.08 885.49	196.92
23 34 16 00-0152	EA	895 CFM, 1/3 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	6,836.33 954.49	236.54
23 34 16 00-0153	EA	1,630 CFM, 1/2 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	8,104.58 1,126.98	295.68
23 34 16 00-0154	EA	2,240 CFM, 1 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	8,685.50 1,184.48	394.43
23 34 16 00-0155	EA	3,810 CFM, 2 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	9,922.58 1,310.98	591.35
23 34 16 00-0156	EA	11,760 CFM, 5 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	17,085.22 2,207.97	1,182.70
23 34 16 00-0157	EA	18,810 CFM, 10 HP Roof Ventilator, Centrifugal, Belt Drive, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	24,924.35 3,231.46	1,690.68
23 34 16 00-0158		Utility Set, Centrifugal, Belt Drive (23 34 16 00-0149)		
23 34 16 00-0159	EA	1,200 CFM, 1/4 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	6,297.08 885.49	196.92
23 34 16 00-0160	EA	1,520 CFM, 1/3 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	6,453.00 896.99	236.54
23 34 16 00-0161	EA	1,850 CFM, 1/2 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	6,571.27 896.99	295.68
23 34 16 00-0162	EA	2,180 CFM, 3/4 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	6,768.86 896.99	394.43
23 34 16 00-0163	EA	3,600 CFM, 1 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	9,309.26 1,218.98	591.35
23 34 16 00-0164	EA	4,250 CFM, 1-1/2 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	9,604.95 1,218.98	739.20
23 34 16 00-0165	EA	4,800 CFM, 2 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	9,818.29 1,218.98	845.87
23 34 16 00-0166	EA	6,920 CFM, 5 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	10,053.96 1,241.98	887.03
23 34 16 00-0167	EA	7,700 CFM, 7-1/2 HP Utility Set, Centrifugal, Belt Drive, 1/4 Static Pressure, Corrosive Fume Resistant Plastic..... <i>For Explosion Proof Motor, Add</i>	10,327.73 1,253.48	985.55
23 34 16 00-0168		In-Line Duct Fans (23 34 16 00-0001)		



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Fans			23 34

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 16 00-0169			Direct Drive In-Line Duct Fans (23 34 16 00-0168) Note: Greenheck SQ.		
23 34 16 00-0170	EA		Up To 10" Wheel Diameter, 1/16 HP Direct Drive, In Line Duct Fan Note: 115V. Includes disconnect switch.	1,640.97	141.88
23 34 16 00-0171	EA		13" Wheel Diameter, 1/6 HP Direct Drive, In Line Duct Fan Note: 115V. Includes disconnect switch.	2,104.85	152.81
23 34 16 00-0172	EA		14" Wheel Diameter, 1/3 HP Direct Drive, In Line Duct Fan Note: 115V. Includes disconnect switch.	2,309.15	163.72
23 34 16 00-0173			Belt Drive In-Line Duct Fans (23 34 16 00-0168) Note: Greenheck BSQ.		
23 34 16 00-0174	EA		Up To 12" Wheel Diameter, 1/4 HP Belt Drive, In Line Duct Fan Note: 115/208-230/60/1. Includes disconnect switch.	2,414.70	163.72
			For 3 Phase Motor, Deduct	-50.00	
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0175	EA		13" Or 14" Wheel Diameter, 1/4 HP Belt Drive, In Line Duct Fan Note: 115/208-230/60/1. Includes disconnect switch.	2,774.52	191.01
			For 3 Phase Motor, Deduct	-50.00	
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0176	EA		13" Or 14" Wheel Diameter, 3/4 HP Belt Drive, In Line Duct Fan Note: 115/208-230/60/1. Includes disconnect switch.	3,126.79	191.01
			For 3 Phase Motor, Deduct	-50.00	
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0177	EA		13" Or 14" Wheel Diameter, 1-1/2 HP Belt Drive, In Line Duct Fan Note: 115/208-230/60/1. Includes disconnect switch.	3,426.28	191.01
			For 3 Phase Motor, Deduct	-50.00	
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0178	EA		16" Or 18" Wheel Diameter, 1/3 HP Belt Drive, In Line Duct Fan Note: 115/208-230/60/1. Includes disconnect switch.	3,328.25	218.29
			For 3 Phase Motor, Deduct	-50.00	
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0179	EA		16" Or 18" Wheel Diameter, 1-1/2 HP Belt Drive, In Line Duct Fan Note: 115/208-230/60/1. Includes disconnect switch.	3,835.44	218.29
			For 3 Phase Motor, Deduct	-50.00	
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0180	EA		24" Wheel Diameter, 1 HP Belt Drive, In Line Duct Fan Note: 115/208-230/60/1. Includes disconnect switch.	4,882.06	272.86
			For 3 Phase Motor, Deduct	-50.00	
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0181	EA		24" Wheel Diameter, 3 HP Belt Drive, In Line Duct Fan Note: 230/460/60/3. Includes disconnect switch.	5,162.05	272.86
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0182	EA		24" Wheel Diameter, 5 HP Belt Drive, In Line Duct Fan Note: Belt drive, 230/460/60/3. Includes disconnect switch.	5,359.42	272.86
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0183	EA		30 Or 36" Wheel Diameter, 3 HP Belt Drive, In Line Duct Fan Note: 230/460/60/3. Includes disconnect switch.	6,195.03	327.43
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0184	EA		30 Or 36" Wheel Diameter, 5 HP Belt Drive, In Line Duct Fan Note: 230/460/60/3. Includes disconnect switch.	6,430.60	327.43
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0185	EA		30 Or 36" Wheel Diameter, 7-1/2 HP Belt Drive, In Line Duct Fan Note: 230/460/60/3. Includes disconnect switch.	6,720.09	327.43
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0186			Bathroom Exhaust Fan, Low Profile (23 34 16 00-0001)		
23 34 16 00-0187	EA		35 To 89 CFM, Ceiling Mounted, Low Profile, Bathroom Exhaust Fan (Greenheck SP-B70).....	279.74	49.28
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0188	EA		46 To 94 CFM, Ceiling Mounted, Low Profile, Bathroom Exhaust Fan (Greenheck SP-B80).....	279.74	49.28
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0189	EA		50 To 133 CFM, Ceiling Mounted, Low Profile, Bathroom Exhaust Fan (Greenheck SP-B110).....	301.04	49.28
			For Totally Enclosed Motor, Add	85.00	
23 34 16 00-0190			Centrifugal Upblast Exhaust Fan (23 34 16 00-0001)		
23 34 16 00-0191	EA		65 To 133 CFM, Direct Drive, 1/10 HP, Centrifugal Roof Exhaust Fan (Greenheck CUE-060-VG).....	1,434.63	239.79
23 34 16 00-0192	EA		143 To 250 CFM, Direct Drive, 1/10 HP, Centrifugal Roof Exhaust Fan (Greenheck CUE-070-VG).....	1,527.74	239.79
23 34 16 00-0193	EA		133 To 325 CFM, Direct Drive, 1/10 HP, Centrifugal Roof Exhaust Fan (Greenheck CUE-080-VG).....	1,577.50	248.85
23 34 16 00-0194	EA		204 To 549 CFM, Direct Drive, 1/10 HP, Centrifugal Roof Exhaust Fan (Greenheck CUE-090-VG).....	1,637.56	248.85
23 34 16 00-0195			Centrifugal In-Line Fans (23 34 16 00-0001)		
23 34 16 00-0196	EA		419 - 766 CFM, 115 V, Direct Drive In-Line Exhaust Fan (Greenheck CSP-A700-QD).....	912.38	106.41
23 34 16 00-0197			In-Line Cabinet Fans (23 34 16 00-0001)		
23 34 16 00-0198	EA		77 - 124 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	509.27	95.50
23 34 16 00-0199	EA		91 - 138 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	509.27	95.50
23 34 16 00-0200	EA		82 - 266 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	580.28	100.95
23 34 16 00-0201	EA		281 - 412 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	644.31	100.95
23 34 16 00-0202	EA		190 CFM, 115 Volt, Direct Drive Cabinet Fan.....	819.20	100.95

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 16 00-0203 EA 217 - 447 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	672.89	100.95
23 34 16 00-0204 EA 325 - 545 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	773.39	100.95
23 34 16 00-0205 EA 250 - 545 CFM, 115 Volt, 1/6 HP, Direct Drive In-Line Cabinet Fan.....	1,482.78	100.95
23 34 16 00-0206 EA 419 - 766 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	912.38	106.41
23 34 16 00-0207 EA 334 - 737 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	928.15	106.41
23 34 16 00-0208 EA 350 - 737 CFM, 120 Volt, 1/4 HP, Direct Drive In-Line Cabinet Fan.....	1,542.97	106.41
23 34 16 00-0209 EA 527 - 813 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	928.15	106.41
23 34 16 00-0210 EA 631 - 908 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	1,258.21	106.41
23 34 16 00-0211 EA 752 - 1244 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	1,258.21	106.41
23 34 16 00-0212 EA 1043 - 1584 CFM, 115 Volt, 1/3 HP, Direct Drive In-Line Cabinet Fan.....	1,258.21	106.41
23 34 16 00-0213 EA 999 - 1672 CFM, 115 Volt, Direct Drive In-Line Cabinet Fan.....	1,368.57	106.41
23 34 16 00-0214 Propeller And Ceiling Fans (23 34 16)		
23 34 16 00-0215 Direct Drive, Sidewall Propeller Exhaust Fan (23 34 16 00-0214)		
Note: Greenheck SE1.		
23 34 16 00-0216 EA 1/25 HP, 307 CFM At 1/8" Static Pressure, 8" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan.....	716.04	116.78
Note: Includes motor side guard.		
For Backdraft Damper, Add	197.39	
For Wall Mount Collar, Add	284.91	
23 34 16 00-0217 EA 1/12 HP, 763 CFM At 1/8" Static Pressure, 10" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan.....	757.01	129.89
Note: Includes motor side guard.		
For Backdraft Damper, Add	211.52	
For Wall Mount Collar, Add	284.91	
23 34 16 00-0218 EA 1/8 HP, 1,149 CFM At 1/8" Static Pressure, 12" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan.....	838.18	144.07
Note: Includes motor side guard.		
For Backdraft Damper, Add	231.42	
For Wall Mount Collar, Add	292.33	
23 34 16 00-0219 EA 1/6 HP, 1,350 CFM At 1/8" Static Pressure, 14" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan.....	1,237.25	159.35
For Backdraft Damper, Add	277.31	
For Wall Mount Collar, Add	297.64	
For Motor Side Guard, Add	247.41	
23 34 16 00-0220 EA 1/6 HP, 2,012 CFM At 1/8" Static Pressure, 16" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan.....	1,030.24	176.81
For Backdraft Damper, Add	277.31	
For Wall Mount Collar, Add	305.08	
For Motor Side Guard, Add	263.29	
23 34 16 00-0221 EA 1/4 HP, 2,908 CFM At 1/8" Static Pressure, 18" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan.....	1,157.34	196.46
For Backdraft Damper, Add	337.65	
For Wall Mount Collar, Add	312.49	
For Motor Side Guard, Add	279.16	
23 34 16 00-0222 EA 1/3 HP, 3,974 CFM At 1/8" Static Pressure, 20" Diameter, Direct Drive, Sidewall Propeller Exhaust Fan.....	1,319.07	218.29
For Backdraft Damper, Add	337.65	
For Wall Mount Collar, Add	317.81	
For Motor Side Guard, Add	301.36	
23 34 16 00-0223 Belt Drive Propeller Exhaust Fans (23 34 16 00-0214)		
Note: Wall shutter 1/8" static pressure, with birdscreen.		
23 34 16 00-0224 EA 24" Propeller Exhaust Fan, V-Belt Drive, 5,795 CFM, 1/2 HP, With Wall Shutter.....	2,467.42	312.15
23 34 16 00-0225 EA 30" Propeller Exhaust Fan, V-Belt Drive, 9,060 CFM, 3/4 HP, With Wall Shutter.....	2,824.78	363.45
23 34 16 00-0226 EA 36" Propeller Exhaust Fan, V-Belt Drive, 11,850 CFM, 1 HP, With Wall Shutter.....	3,200.23	436.58
23 34 16 00-0227 EA 42" Propeller Exhaust Fan, V-Belt Drive, 17,400 CFM, 1-1/2 HP, With Wall Shutter.....	4,466.72	545.72
23 34 16 00-0228 EA 48" Propeller Exhaust Fan, V-Belt Drive, 19,870 CFM, With Wall Shutter.....	5,315.37	727.99
23 34 16 00-0229 EA 54" Propeller Exhaust Fan, V-Belt Drive, 26,000 CFM, 2 HP, With Wall Shutter.....	7,368.92	1,091.44
23 34 16 00-0230 EA 60" Propeller Exhaust Fan, V-Belt Drive, 35,120 CFM, 3 HP, With Wall Shutter.....	8,829.34	1,399.22
23 34 16 00-0231 Propeller Exhaust Fan Accessories (23 34 16 00-0214)		
23 34 16 00-0232 SF Hinged Mesh Screen For Wall Propeller Fans, 1" x 1" Frame (SF Of Fan Opening).....	126.30	
23 34 16 00-0233 SF Galvanized Weather Hood For Wall Propeller Fan (SF Of Fan Opening).....	291.82	
23 34 16 00-0234 Reversible Ceiling Fans (23 34 16 00-0214)		
23 34 16 00-0235 4 Blade Ceiling Fans (23 34 16 00-0234)		
23 34 16 00-0236 EA 42" 4-Blade Ceiling Fan, Three Speed.....	584.34	60.98
For Brass Plated Motor, Add	20.25	
For Light Kit, Add	26.02	
23 34 16 00-0237 5 Blade Ceiling Fans (23 34 16 00-0234)		
23 34 16 00-0238 EA 42" 5-Blade Ceiling Fan, Three Speed.....	639.74	150.91
For Brass Plated Motor, Add	20.25	
For Light Kit, Add	26.08	
23 34 16 00-0239 EA 52" 5-Blade Ceiling Fan, Three Speed.....	730.67	150.91
For Brass Plated Motor, Add	20.25	
For Light Kit, Add	26.20	
23 34 16 00-0240 3 Blade Weatherproof Ceiling Fans (23 34 16 00-0234)		
23 34 16 00-0241 EA 3-Blade Ceiling Fan, Weatherproof, Three Speed.....	592.09	54.03



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
HVAC Fans			23 34

MINOR		TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION		UNIT COST		UNIT COST	
23 34 16 00-0242	Ceiling Fan Down Rod (23 34 16 00-0234)				
23 34 16 00-0243	EA 1' Ceiling Fan Down Rod.....		23.32		
23 34 16 00-0244	EA 1-1/2' Ceiling Fan Down Rod.....		30.78		
23 34 16 00-0245	EA 2' Ceiling Fan Down Rod.....		34.51		
23 34 16 00-0246	EA 3' Ceiling Fan Down Rod.....		46.50		
23 34 16 00-0247	EA 4' Ceiling Fan Down Rod.....		54.39		
23 34 16 00-0248	EA 5' Ceiling Fan Down Rod.....		66.93		
23 34 16 00-0249	EA 6' Ceiling Fan Down Rod.....		83.84		
23 34 16 00-0250	Exhaust Fans (23 34 16)				
23 34 16 00-0251	Exhaust Fans (23 34 16 00-0250) Note: Excludes ducting.				
23 34 16 00-0252	Light Duty Exhaust Fans (23 34 16 00-0251)				
23 34 16 00-0253	Light Duty Exhaust Fans (23 34 16 00-0252)				
23 34 16 00-0254	EA 50 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan Without Light (Broan® 670).....	152.04		49.28	
23 34 16 00-0255	EA 70 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan Without Light (Broan® 671).....	160.97		49.28	
23 34 16 00-0256	EA 180 CFM, Ceiling Mounted, Polymeric Intake Grille, Vertical Discharge, Light Duty Exhaust Fan Without Light (Broan® 505).....	268.22		49.28	
23 34 16 00-0257	EA 350 CFM, Ceiling Mounted, Polymeric Intake Grille, Vertical Discharge, Light Duty Exhaust Fan Without Light (Broan® 504).....	339.93		49.28	
23 34 16 00-0258	EA 160 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Side Discharge, Light Duty Exhaust Fan Without Light (Broan® 503).....	303.52		49.28	
23 34 16 00-0259	EA 270 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Side Discharge, Light Duty Exhaust Fan Without Light (Broan® 502).....	405.36		49.28	
23 34 16 00-0260	Light Duty Exhaust Fans With Lights (23 34 16 00-0252)				
23 34 16 00-0261	EA 50 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Light (Broan® 678).....	199.82		49.28	
23 34 16 00-0262	EA 70 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Light (Broan® 679).....	222.20		49.28	
23 34 16 00-0263	EA 100 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Light (Broan® 680).....	419.03		49.28	
23 34 16 00-0264	Light Duty Exhaust Fans With Heaters (23 34 16 00-0252)				
23 34 16 00-0265	EA 70 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Heater Bulb (Broan® 162).....	204.67		49.28	
23 34 16 00-0266	EA 70 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Heater (Broan® 658).....	327.39		49.28	
23 34 16 00-0267	Light Duty Exhaust Fans With Heaters And Lights (23 34 16 00-0252)				
23 34 16 00-0268	EA 70 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Heater And Light (Broan® 655).....	348.66		49.28	
23 34 16 00-0269	EA 100 CFM, Ceiling Mounted, Polymeric Intake Grille, Light Duty Exhaust Fan With Heater And Light (Broan® 100HL).....	531.33		49.28	
23 34 16 00-0270	Heavy Duty/Continuous Operation Exhaust Fans (23 34 16 00-0251)				
23 34 16 00-0271	Heavy Duty/Continuous Operation Exhaust Fans (23 34 16 00-0270) Note: Includes enamel steel or aluminum grille.				
23 34 16 00-0272	EA 50 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® HD50).....	238.46		49.28	
23 34 16 00-0273	EA 80 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® HD80).....	264.11		49.28	
23 34 16 00-0274	EA 109 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L100MG).....	486.12		49.28	
23 34 16 00-0275	EA 157 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L150MG).....	498.01		49.28	
23 34 16 00-0276	EA 210 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L200MG).....	535.00		49.28	
23 34 16 00-0277	EA 259 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L250MG).....	558.65		49.28	
23 34 16 00-0278	EA 308 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L300MG).....	567.81		49.28	
23 34 16 00-0279	EA 434 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L400).....	650.39		49.28	
23 34 16 00-0280	EA 514 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L500).....	741.49		49.28	
23 34 16 00-0281	EA 701 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L700).....	793.37		49.28	
23 34 16 00-0282	EA 901 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L900).....	944.95		49.28	
23 34 16 00-0283	EA 1,513 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L1500).....	1,214.96		49.28	
23 34 16 00-0284	Heavy Duty/Continuous Operation Kitchen Exhaust Fans (23 34 16 00-0270) Note: Includes enamel steel or aluminum grille.				
23 34 16 00-0285	EA 308 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Kitchen Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L300KMG).....	504.93		49.28	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 16 00-0286	EA	434 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Kitchen Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L400K)	734.68	49.28
23 34 16 00-0287	EA	514 CFM, Ceiling/Wall Mounted, Metal Intake Grille, Kitchen Heavy Duty/Continuous Operation Exhaust Fan (Broan® LoSone® Ventilator L500K)	777.22	49.28
23 34 16 00-0288		Heavy Duty/Continuous Operation Exhaust Fans With Lights (23 34 16 00-0270)		
23 34 16 00-0289	EA	50 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan With Light (Broan® HD50L)	259.47	49.28
23 34 16 00-0290	EA	80 CFM, Ceiling/Wall Mounted, Polymeric Intake Grille, Heavy Duty/Continuous Operation Exhaust Fan With Light (Broan® HD80L)	283.56	49.28
23 34 16 00-0291		Fire Rated, Heavy Duty/Continuous Operation Exhaust Fans (23 34 16 00-0270)		
23 34 16 00-0292	EA	50 CFM, Ceiling Mounted, Metal Intake Grille, Fire Rated, Heavy Duty/Continuous Operation Exhaust Fan (Broan® HD50RDF)	270.05	49.28
23 34 16 00-0293	EA	80 CFM, Ceiling Mounted, Metal Intake Grille, Fire Rated, Heavy Duty/Continuous Operation Exhaust Fan (Broan® HD80RDF)	285.99	49.28
23 34 16 00-0294	EA	110 CFM, Ceiling Mounted, Metal Intake Grille, Fire Rated, Heavy Duty/Continuous Operation Exhaust Fan (Broan® 110RDF)	293.69	49.28
23 34 16 00-0295		Low Sound, Direct Drive, Centrifugal Ceiling Exhaust Fans (23 34 16 00-0251)		
23 34 16 00-0296	EA	900 CFM Low Sound, Direct Drive Centrifugal Ceiling Exhaust Fan (Greenheck SP-A900)	1,304.59	49.28
23 34 16 00-0297	EA	1050 CFM Low Sound, Direct Drive Centrifugal Ceiling Exhaust Fan (Greenheck SP-A1050)	1,304.59	49.28
23 34 16 00-0298	EA	1410 CFM Low Sound, Direct Drive Centrifugal Ceiling Exhaust Fan (Greenheck SP-A1410)	1,304.59	49.28
23 34 16 00-0299	EA	1550 CFM Low Sound, Direct Drive Centrifugal Ceiling Exhaust Fan (Greenheck SP-A1550)	1,431.99	49.28
23 34 16 00-0300		Room-To-Room Exhaust Fans (23 34 16 00-0251)		
23 34 16 00-0301	EA	90 CFM, Polymeric Grilles, Wall Mounted, Room-To-Room Exhaust Fan (Broan® 512)	193.80	49.28
23 34 16 00-0302	EA	180 CFM, Polymeric Grilles, Wall Mounted, Room-To-Room Exhaust Fan (Broan® 511)	324.05	49.28
23 34 16 00-0303	EA	380 CFM, Polymeric Grilles, Wall Mounted, Room-To-Room Exhaust Fan (Broan® 510)	371.52	49.28
23 34 16 00-0304		Through-Wall Exhaust Fans (23 34 16 00-0251)		
23 34 16 00-0305	EA	250 CFM, Wall Mounted, Polymeric Intake Grille, Chain Operated, Through Wall Exhaust Fan (Broan® 507)	346.70	49.28
23 34 16 00-0306	EA	470 CFM, Wall Mounted, Polymeric Intake Grille, Chain Operated, Through Wall Exhaust Fan (Broan® 506)	412.12	49.28
23 34 16 00-0307	EA	180 CFM, Wall Mounted, Polymeric Intake Grille, Through-Wall Exhaust Fan (Broan® 509)	301.72	49.28
23 34 16 00-0308	EA	270 CFM, Wall Mounted, Polymeric Intake Grille, Through-Wall Exhaust Fan (Broan® 508)	405.36	49.28
23 34 16 00-0309	EA	360 CFM, Wall Mounted, Polymeric Intake Grille, Through-Wall Exhaust Fan With Motorized Door (Broan® 12C)	712.16	49.28
23 34 16 00-0310		Exhaust Fan Accessories (23 34 16 00-0251)		
23 34 16 00-0311		Exhaust Fan Controls (23 34 16 00-0310)		
23 34 16 00-0312	EA	Electronic Variable Speed Control Dial, Single Gang, Exhaust Fan Controls (Broan® 57)	190.18	30.80
23 34 16 00-0313	EA	60-Minute Time Control Dial, Single Gang, Exhaust Fan Controls (Broan® 59)	132.31	30.80
23 34 16 00-0314	EA	60-Minute Time Control Dial With Rocker Switch, Double Gang, Exhaust Fan Controls (Broan® 61)	133.69	30.80
23 34 16 00-0315		Roof And Wall Caps For Exhaust Fans (23 34 16 00-0310)		
23 34 16 00-0316		Wall Caps For Exhaust Fans (23 34 16 00-0315)		
23 34 16 00-0317	EA	Aluminum Wall Cap For Up To 12" Duct, Installed On Exterior Walls (Broan® 613)	297.24	59.25
23 34 16 00-0318	EA	Aluminum Wall Cap For Up To 18" Duct, Installed On Exterior Walls (Broan® 643)	301.79	59.25
23 34 16 00-0319		Roof Caps For Exhaust Fans (23 34 16 00-0315)		
		Note: Includes flashing and built in bird screen.		
23 34 16 00-0320	EA	Aluminum Roof Cap For Up To 8" Duct, Installed On Flat Roofs (Broan® 611)	250.22	59.25
23 34 16 00-0321	EA	Aluminum Roof Cap For Up To 12" Duct, Installed On Flat Roofs (Broan® 612)	368.52	59.25
23 34 16 00-0322	EA	CRCQ Steel Roof Cap For Up To 4" Duct, Installed On Sloped Roofs (Broan® 636)	159.29	59.25
23 34 16 00-0323	EA	CRCQ Steel Roof Cap For Up To 8" Duct, Installed On Sloped Roofs (Broan® 634)	194.77	59.25
23 34 16 00-0324		Removal And Reinstallation Of Light Duty Ceiling Exhaust Fan (23 34 16 00-0251)		
		Note: Includes storage and cleaning.		
23 34 16 00-0325	EA	Removal And Reinstallation Of Light Duty Ceiling Exhaust Fan	81.85	
23 34 23		HVAC Power Ventilators (23 34)		
23 34 23 00-0001		Power Roof Ventilators (23 34 23)		
23 34 23 00-0002		Direct Drive, Aluminum, Centrifugal Roof Exhausters (23 34 23 00-0001)		
		Note: Greenheck G.		



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 23 00-0003	EA		1/25 HP, 310 CFM At 1/4" Static Pressure, 17" x 17" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster Note: Three speed motor. For 12" Roof Curb, Add For Backdraft Damper, Add For Solid State Speed Control, Add For Damper Motor, Add	623.96 214.72 156.63 113.34 275.98	156.08
23 34 23 00-0004	EA		1/8 HP, 863 CFM At 1/4" Static Pressure, 17" x 17" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster Note: Three speed motor. For 12" Roof Curb, Add For Backdraft Damper, Add For Solid State Speed Control, Add For Damper Motor, Add	683.01 214.72 156.63 113.34 275.98	176.81
23 34 23 00-0005	EA		1/6 HP, 1,213 CFM At 1/4" Static Pressure, 19" x 19" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Solid State Speed Control, Add For Damper Motor, Add	979.12 221.05 167.87 113.34 275.98	206.28
23 34 23 00-0006	EA		1/4 HP, 1,374 CFM At 1/4" Static Pressure, 19" x 19" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Solid State Speed Control, Add For Damper Motor, Add	1,008.52 221.05 167.87 113.34 275.98	232.48
23 34 23 00-0007	EA		1/3 HP, 1,905 CFM At 1/4" Static Pressure, 22" x 22" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster For Solid State Speed Control, Add For Damper Motor, Add	1,296.48 113.34 275.98	256.49
23 34 23 00-0008	EA		1/2 HP, 3,072 CFM At 1/4" Static Pressure, 22" x 22" Base, Direct Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Solid State Speed Control, Add For Damper Motor, Add	1,470.32 231.61 190.65 178.80 275.98	272.86
23 34 23 00-0009			Belt Drive, Aluminum, Centrifugal Roof Exhausters (23 34 23 00-0001) Note: Greenheck GB.		
23 34 23 00-0010	EA		1/4 HP, 1,556 CFM At 1/4" Static Pressure, 19" x 19" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Damper Motor, Add	1,438.21 221.05 167.87 275.98	277.87
23 34 23 00-0011	EA		1/3 HP, 1,966 CFM At 1/4" Static Pressure, 22" x 22" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Damper Motor, Add	1,569.32 231.61 190.65 275.98	294.98
23 34 23 00-0012	EA		1/2 HP, 2,943 CFM At 1/4" Static Pressure, 22" x 22" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Damper Motor, Add	2,130.07 231.61 190.65 275.98	352.54
23 34 23 00-0013	EA		3/4 HP, 4,289 CFM At 1/4" Static Pressure, 30" x 30" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Damper Motor, Add	2,718.35 282.29 239.44 275.98	436.58
23 34 23 00-0014	EA		1 HP, 6,157 CFM At 1/4" Static Pressure, 34" x 34" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Damper Motor, Add	3,589.04 305.52 259.34 275.98	545.72
23 34 23 00-0015	EA		1-1/2 HP, 8,906 CFM At 1/4" Static Pressure, 40" x 40" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Damper Motor, Add	5,843.01 341.42 287.90 275.98	682.15
23 34 23 00-0016	EA		2 HP, 10,059 CFM At 1/4" Static Pressure, 40" x 40" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Damper Motor, Add	5,893.69 341.42 287.90 275.98	682.15
23 34 23 00-0017	EA		3 HP, 11,703 CFM At 1/4" Static Pressure, 40" x 40" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Damper Motor, Add	6,440.60 341.42 287.90 275.98	682.15
23 34 23 00-0018	EA		5 HP, 13,897 CFM At 1/4" Static Pressure, 40" x 40" Base, Belt Drive, Aluminum, Centrifugal Roof Exhauster For 12" Roof Curb, Add For Backdraft Damper, Add For Damper Motor, Add	5,192.46 341.42 287.90 275.98	682.15
23 34 23 00-0019			Propeller Exhaust Fans, Roof Mounted Upblast (23 34 23 00-0001) Note: Includes back draft damper and birdscreen and curb.		
23 34 23 00-0020	EA		30,300 CFM Belt Drive 5 HP Propeller Exhaust Fan, Roof Mounted, 3/8" Static Pressure	8,421.54	839.32
23 34 23 00-0021	EA		36,000 CFM Belt Drive 15 HP Propeller Exhaust Fan, Roof Mounted, 1/2" Static Pressure	13,878.99	1,091.12
23 34 23 00-0022			Belt Drive Supply Fans (23 34 23 00-0001)		
23 34 23 00-0023	EA		4,500 CFM, 24" x 24" Supply Fan, Roof Mounted	3,298.95	435.81
23 34 23 00-0024	EA		10,000 CFM, 36" x 36" Supply Fan, Roof Mounted	4,470.50	545.61
23 34 23 00-0025			Fan Thermostat (23 34 23 00-0001)		
23 34 23 00-0026	EA		50 To 120 Degree Line Voltage Fan Thermostat	146.89	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 23 00-0027			Power Wall Ventilators (23 34 23)		
23 34 23 00-0028			Centrifugal Sidewall Exhausters (23 34 23 00-0027)		
23 34 23 00-0029			Direct Drive, Aluminum, Centrifugal Sidewall Exhauster (23 34 23 00-0028)		
			Note: Greenheck CW.		
23 34 23 00-0030	EA		1/25 HP, 297 CFM At 1/4" Static Pressure, Direct Drive, Aluminum, Centrifugal Sidewall Exhauster	816.79	175.72
			For Solid State Speed Control, Add	178.80	
			For Backdraft Damper, Add	220.83	
			For Damper Motor, Add	479.19	
			For Interior Wall Grill, Add	137.61	
23 34 23 00-0031	EA		1/8 HP, 861 CFM At 1/4" Static Pressure, Direct Drive, Aluminum, Centrifugal Sidewall Exhauster	937.11	206.28
			For Solid State Speed Control, Add	178.80	
			For Backdraft Damper, Add	243.61	
			For Damper Motor, Add	479.19	
			For Interior Wall Grill, Add	164.05	
23 34 23 00-0032	EA		1/6 HP, 1,179 CFM At 1/4" Static Pressure, Direct Drive, Aluminum, Centrifugal Sidewall Exhauster	1,404.45	232.48
			For Solid State Speed Control, Add	178.80	
			For Backdraft Damper, Add	275.07	
			For Damper Motor, Add	479.19	
			For Interior Wall Grill, Add	190.47	
23 34 23 00-0033			Belt Drive, Aluminum, Centrifugal Sidewall Exhausters (23 34 23 00-0028)		
			Note: Greenheck CWB.		
23 34 23 00-0034	EA		1/4 HP, 1,633 CFM At 1/4" Static Pressure, Belt Drive, Aluminum, Centrifugal Sidewall Exhauster	2,574.77	131.28
			For Solid State Speed Control, Add	178.80	
			For Backdraft Damper, Add	253.33	
			For Damper Motor, Add	479.19	
			For Interior Wall Grill, Add	290.80	
23 34 23 00-0035	EA		1/2 HP, 2,291 CFM At 1/4" Static Pressure, Belt Drive, Aluminum, Centrifugal Sidewall Exhauster	2,717.69	147.84
			For Solid State Speed Control, Add	178.80	
			For Backdraft Damper, Add	253.33	
			For Damper Motor, Add	479.19	
			For Interior Wall Grill, Add	290.80	
23 34 23 00-0036	EA		3/4 HP, 3,646 CFM At 1/4" Static Pressure, Belt Drive, Aluminum, Centrifugal Sidewall Exhauster	3,340.96	169.12
			For Solid State Speed Control, Add	178.80	
			For Backdraft Damper, Add	318.69	
			For Damper Motor, Add	479.19	
			For Interior Wall Grill, Add	338.35	
23 34 33			Air Curtains (23 34)		
23 34 33 00-0001			Unheated Air Curtains For Entrances (23 34 33)		
23 34 33 00-0002			Unheated Air Curtains, Standard Velocity (23 34 33 00-0001)		
23 34 33 00-0003	EA		Air Curtain For 3' x 8' - 10' Personnel Entrance, Unheated.....	2,302.80	800.03
			Note: Includes housing, mounting brackets and manual controls.		
			For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
			For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add	549.94	
			For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø	408.52	
			For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add	628.50	
			For Flat Side Extension Plates, Add	155.70	
			For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
			For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
			For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0004	EA		Air Curtain For 3.5' x 8' - 10' Personnel Entrance, Unheated.....	2,334.87	800.03
			Note: Includes housing, mounting brackets and manual controls.		
			For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
			For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add	549.94	
			For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø	408.52	
			For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add	628.50	
			For Flat Side Extension Plates, Add	155.70	
			For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
			For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
			For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	
23 34 33 00-0005	EA		Air Curtain For 4' x 8' - 10' Personnel Entrance, Unheated.....	2,369.60	800.03
			Note: Includes housing, mounting brackets and manual controls.		
			For Door Limit Switch, Combination Roller And Plunger, Add	202.02	
			For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add	549.94	
			For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø	408.52	
			For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add	628.50	
			For Flat Side Extension Plates, Add	155.70	
			For Clearance Adjustable-Angle Mounting Bracket, Add	311.40	
			For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	373.68	
			For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	394.44	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
HVAC Fans			23 34	

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
23 34 33 00-0006	EA	Air Curtain For 5' x 8' - 10' Personnel Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	2,944.04 202.02 549.94 408.52 628.50 155.70 311.40 373.68 394.44	800.03
23 34 33 00-0007	EA	Air Curtain For 6' x 8' - 10' Personnel Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	3,341.55 202.02 549.94 408.52 628.50 155.70 311.40 373.68 394.44	960.47
23 34 33 00-0008	EA	Air Curtain For 7' x 8' - 10' Personnel Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	3,541.94 202.02 549.94 408.52 628.50 155.70 311.40 373.68 394.44	960.47
23 34 33 00-0009	EA	Air Curtain For 8' x 8' - 10' Personnel Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	3,926.13 202.02 549.94 408.52 628.50 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0010	EA	Air Curtain For 9' x 8' - 10' Personnel Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	4,726.34 202.02 549.94 408.52 628.50 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0011	EA	Air Curtain For 10' x 8' - 10' Personnel Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	4,827.87 202.02 549.94 408.52 628.50 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0012	EA	Air Curtain For 12' x 8' - 10' Personnel Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Commercial Magnetic Reed Switch with Controller and Adjustable Time Delay - 115, 208-230 Volt 1Ø, Add For Commercial Magnetic Reed Switch with Controller - 115, 208-230 Volt 1Ø For Door Limit switch with Controller and Adjustable Time Delay - 115, 208-230 Volt, 1Ø, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	5,097.72 202.02 549.94 408.52 628.50 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0013		Unheated Air Curtains, High Velocity (23 34 33 00-0001)		
23 34 33 00-0014	EA	High Velocity Air Curtain For 3' x 10' - 12' Entrance, Unheated..... Note: Includes housing, mounting brackets and manual controls. For Door Limit Switch, Combination Roller And Plunger, Add For Industrial Floor-Mounted Magnetic Reed Switch Only, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	2,834.49 202.02 311.40 155.70 311.40 373.68 394.44	800.03

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 34 HVAC Fans**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 33 00-0015	EA	High Velocity Air Curtain For 3.5' x 10' - 12' Entrance, Unheated Note: Includes housing, mounting brackets and manual controls. <i>For Door Limit Switch, Combination Roller And Plunger, Add</i> <i>For Industrial Floor-Mounted Magnetic Reed Switch Only, Add</i> <i>For Flat Side Extension Plates, Add</i> <i>For Clearance Adjustable-Angle Mounting Bracket, Add</i> <i>For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i> <i>For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i>	2,875.91 202.02 311.40 155.70 311.40 373.68 394.44	800.03
23 34 33 00-0016	EA	High Velocity Air Curtain For 4' x 10' - 12' Entrance, Unheated Note: Includes housing, mounting brackets and manual controls. <i>For Door Limit Switch, Combination Roller And Plunger, Add</i> <i>For Industrial Floor-Mounted Magnetic Reed Switch Only, Add</i> <i>For Flat Side Extension Plates, Add</i> <i>For Clearance Adjustable-Angle Mounting Bracket, Add</i> <i>For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i> <i>For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i>	2,893.27 202.02 311.40 155.70 311.40 373.68 394.44	800.03
23 34 33 00-0017	EA	High Velocity Air Curtain For 5' x 10' - 12' Entrance, Unheated Note: Includes housing, mounting brackets and manual controls. <i>For Door Limit Switch, Combination Roller And Plunger, Add</i> <i>For Industrial Floor-Mounted Magnetic Reed Switch Only, Add</i> <i>For Flat Side Extension Plates, Add</i> <i>For Clearance Adjustable-Angle Mounting Bracket, Add</i> <i>For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i> <i>For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i>	2,926.67 202.02 311.40 155.70 311.40 373.68 394.44	800.03
23 34 33 00-0018	EA	High Velocity Air Curtain For 6' x 10' - 12' Entrance, Unheated Note: Includes housing, mounting brackets and manual controls. <i>For Door Limit Switch, Combination Roller And Plunger, Add</i> <i>For Industrial Floor-Mounted Magnetic Reed Switch Only, Add</i> <i>For Flat Side Extension Plates, Add</i> <i>For Clearance Adjustable-Angle Mounting Bracket, Add</i> <i>For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i> <i>For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i>	4,559.89 202.02 311.40 155.70 311.40 373.68 394.44	960.47
23 34 33 00-0019	EA	High Velocity Air Curtain For 7' x 10' - 12' Entrance, Unheated Note: Includes housing, mounting brackets and manual controls. <i>For Door Limit Switch, Combination Roller And Plunger, Add</i> <i>For Industrial Floor-Mounted Magnetic Reed Switch Only, Add</i> <i>For Flat Side Extension Plates, Add</i> <i>For Clearance Adjustable-Angle Mounting Bracket, Add</i> <i>For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i> <i>For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i>	4,765.62 202.02 311.40 155.70 311.40 373.68 394.44	960.47
23 34 33 00-0020	EA	High Velocity Air Curtain For 8' x 10' - 12' Entrance, Unheated Note: Includes housing, mounting brackets and manual controls. <i>For Door Limit Switch, Combination Roller And Plunger, Add</i> <i>For Industrial Floor-Mounted Magnetic Reed Switch Only, Add</i> <i>For Flat Side Extension Plates, Add</i> <i>For Clearance Adjustable-Angle Mounting Bracket, Add</i> <i>For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i> <i>For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i>	5,073.67 202.02 311.40 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0021	EA	High Velocity Air Curtain For 9' x 10' - 12' Entrance, Unheated Note: Includes housing, mounting brackets and manual controls. <i>For Door Limit Switch, Combination Roller And Plunger, Add</i> <i>For Industrial Floor-Mounted Magnetic Reed Switch Only, Add</i> <i>For Flat Side Extension Plates, Add</i> <i>For Clearance Adjustable-Angle Mounting Bracket, Add</i> <i>For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i> <i>For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i>	5,785.71 202.02 311.40 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0022	EA	High Velocity Air Curtain For 10' x 10' - 12' Entrance, Unheated Note: Includes housing, mounting brackets and manual controls. <i>For Door Limit Switch, Combination Roller And Plunger, Add</i> <i>For Industrial Floor-Mounted Magnetic Reed Switch Only, Add</i> <i>For Flat Side Extension Plates, Add</i> <i>For Clearance Adjustable-Angle Mounting Bracket, Add</i> <i>For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i> <i>For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i>	5,860.52 202.02 311.40 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0023	EA	High Velocity Air Curtain For 12' x 10' - 12' Entrance, Unheated Note: Includes housing, mounting brackets and manual controls. <i>For Door Limit Switch, Combination Roller And Plunger, Add</i> <i>For Industrial Floor-Mounted Magnetic Reed Switch Only, Add</i> <i>For Flat Side Extension Plates, Add</i> <i>For Clearance Adjustable-Angle Mounting Bracket, Add</i> <i>For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i> <i>For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i>	6,151.74 202.02 311.40 155.70 311.40 373.68 394.44	1,107.82
23 34 33 00-0024		Service Window Unheated Air Curtains (23 34 33 00-0001) Note: Normal window sizes.		
23 34 33 00-0025	EA	Air Curtain For 2.5' x 5' Service Window, Unheated Note: Includes housing, mounting brackets and manual controls. <i>For Door Limit Switch, Combination Roller And Plunger, Add</i> <i>For Flat Side Extension Plates, Add</i> <i>For Clearance Adjustable-Angle Mounting Bracket, Add</i> <i>For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i> <i>For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add</i>	2,146.94 202.02 155.70 311.40 373.68 394.44	630.86
23 34 33 00-0026		Heated Air Curtains For Entrances (23 34 33) Note: Includes housing, mounting brackets and manual controls.		



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Air Distribution

23 30

HVAC Fans

23 34



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 34 33 00-0027 EA 60" Heated Air Curtain With 1- 300 MBH Heater For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	3,671.48 202.02 155.70 311.40 373.68 394.44	704.53
23 34 33 00-0028 EA 60" Heated Air Curtain With 1- 400 MBH Heater For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	4,199.76 202.02 155.70 311.40 373.68 394.44	704.53
23 34 33 00-0029 EA 72" Heated Air Curtain With 1- 350 MBH Heater For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	4,645.09 202.02 155.70 311.40 373.68 394.44	845.33
23 34 33 00-0030 EA 72" Heated Air Curtain With 2- 250 MBH Heaters For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	5,039.02 202.02 155.70 311.40 373.68 394.44	845.33
23 34 33 00-0031 EA 96" Heated Air Curtain With 1- 400 MBH Heater For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	6,192.51 202.02 155.70 311.40 373.68 394.44	1,126.91
23 34 33 00-0032 EA 96" Heated Air Curtain With 2- 350 MBH Heaters For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	6,717.76 202.02 155.70 311.40 373.68 394.44	1,126.91
23 34 33 00-0033 EA 117" Heated Air Curtain With 2- 300 MBH Heaters For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	7,546.14 202.02 155.70 311.40 373.68 394.44	1,373.03
23 34 33 00-0034 EA 117" Heated Air Curtain With 2- 400 MBH Heaters For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	8,186.28 202.02 155.70 311.40 373.68 394.44	1,373.03
23 34 33 00-0035 EA 147" Heated Air Curtain With 2- 350 MBH Heaters For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	9,481.66 202.02 155.70 311.40 373.68 394.44	1,725.02
23 34 33 00-0036 EA 147" Heated Air Curtain With 3- 350 MBH Heaters For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	11,073.81 202.02 155.70 311.40 373.68 394.44	1,725.02
23 34 33 00-0037 EA 168" Heated Air Curtain With 2- 400 MBH Heaters For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	10,836.90 202.02 155.70 311.40 373.68 394.44	1,971.69
23 34 33 00-0038 EA 168" Heated Air Curtain With 3- 400 MBH Heaters For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	12,656.11 202.02 155.70 311.40 373.68 394.44	1,971.69
23 34 33 00-0039 EA 192" Heated Air Curtain With 2- 400 MBH Heaters For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	12,381.32 202.02 155.70 311.40 373.68 394.44	2,253.28
23 34 33 00-0040 EA 192" Heated Air Curtain With 4- 350 MBH Heaters For Door Limit Switch, Combination Roller And Plunger, Add For Flat Side Extension Plates, Add For Clearance Adjustable-Angle Mounting Bracket, Add For 10" To 16" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add For 19" Clearance Drum-Roll-Style Extended Wall Mounting Bracket, Add	14,460.41 202.02 155.70 311.40 373.68 394.44	2,253.28

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 35 Special Exhaust Systems**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 35 Special Exhaust Systems ^(23 30)

See CSI section 23 31 13 16-0075 for spiral duct/piping.

23 35 13 Dust Collection Systems ^(23 35)**23 35 13 13 Sawdust Collection Systems** ^(23 35 13)

23 35 13 13-0001		Dust Collector System	^(23 35 13 13)	
23 35 13 13-0002	EA	1.5 HP Dust Collector Central Vacuum Unit	4,451.37	946.17
		Note: Includes fan bower, stand, cyclone, filter, silencer and 35 gallon fiber drum dust bin.		
23 35 13 13-0003	EA	2 HP Dust Collector Central Vacuum Unit	4,982.98	1,123.57
		Note: Includes fan bower, stand, cyclone, filter, silencer and 35 gallon fiber drum dust bin.		
23 35 13 13-0004	EA	2-1/2 HP Dust Collector Central Vacuum Unit	5,992.69	1,300.98
		Note: Includes fan bower, stand, cyclone, filter, silencer and 35 gallon fiber drum dust bin.		
23 35 13 13-0005	EA	3 HP Dust Collector Central Vacuum Unit	6,828.89	1,537.52
		Note: Includes fan bower, stand, cyclone, filter, silencer and 35 gallon fiber drum dust bin.		
23 35 13 13-0006	EA	5 HP Dust Collector Central Vacuum Unit	14,572.64	1,754.48
		Note: Includes fan bower, stand, cyclone, filter, silencer and 55 gallon fiber drum dust bin.		
23 35 13 13-0007	EA	7-1/2 HP Dust Collector Central Vacuum Unit	17,688.71	2,046.90
		Note: Includes fan bower, stand, cyclone, filter, silencer and 55 gallon fiber drum dust bin.		
23 35 13 13-0008	EA	10 HP Dust Collector Central Vacuum Unit	20,262.34	2,339.31
		Note: Includes fan bower, stand, cyclone, filter, silencer and 55 gallon fiber drum dust bin.		
23 35 13 13-0009	EA	15 HP Dust Collector Central Vacuum Unit	22,777.64	2,690.21
		Note: Includes fan bower, stand, cyclone, filter, silencer and two 55 gallon fiber drum dust bin.		
23 35 13 13-0010	EA	20 HP Dust Collector Central Vacuum Unit	25,412.45	3,041.10
		Note: Includes fan bower, stand, cyclone, filter, silencer and two 55 gallon fiber drum dust bin.		

23 35 13 13-0011 Vacuum Tubing And Accessories ^(23 35 13 13)**23 35 13 13-0012 Vacuum Tubing** ^(23 35 13 13-0011)**23 35 13 13-0013 Flexible Hose** ^(23 35 13 13-0012)

23 35 13 13-0014	LF	2" Flexible Hose	12.67	1.96
23 35 13 13-0015	LF	3" Flexible Hose	15.19	2.19
23 35 13 13-0016	LF	4" Flexible Hose	16.48	2.40

23 35 13 13-0017 Galvanized Vacuum Tubing ^(23 35 13 13-0012)

23 35 13 13-0018	LF	2-1/8" Outside Diameter Vacuum Tubing, Galvanized	10.22	1.96
23 35 13 13-0019	LF	2-1/2" Outside Diameter Vacuum Tubing, Galvanized	11.44	2.08
23 35 13 13-0020	LF	3" Outside Diameter Vacuum Tubing, Galvanized	13.60	2.19
23 35 13 13-0021	LF	3-1/2" Outside Diameter Vacuum Tubing, Galvanized	17.69	2.30
23 35 13 13-0022	LF	4" Outside Diameter Vacuum Tubing, Galvanized	18.19	2.40
23 35 13 13-0023	LF	5" Outside Diameter Vacuum Tubing, Galvanized	30.05	2.73
23 35 13 13-0024	LF	6" Outside Diameter Vacuum Tubing, Galvanized	33.87	3.16
23 35 13 13-0025	LF	8" Outside Diameter Vacuum Tubing, Galvanized	45.83	4.36
23 35 13 13-0026	LF	10" Outside Diameter Vacuum Tubing, Galvanized	53.69	5.46
23 35 13 13-0027	LF	12" Outside Diameter Vacuum Tubing, Galvanized	133.52	7.20

23 35 13 13-0028 Vacuum Fittings, Galvanized ^(23 35 13 13-0011)**23 35 13 13-0029 90 Degree Elbow** ^(23 35 13 13-0028)

23 35 13 13-0030	EA	2-1/8" 90 Degree Elbow, Vacuum Tubing, Galvanized	51.48	12.55
23 35 13 13-0031	EA	2-1/2" 90 Degree Elbow, Vacuum Tubing, Galvanized	63.55	13.43
23 35 13 13-0032	EA	3" 90 Degree Elbow, Vacuum Tubing, Galvanized	79.10	14.63
23 35 13 13-0033	EA	3-1/2" 90 Degree Elbow, Vacuum Tubing, Galvanized	93.23	15.83
23 35 13 13-0034	EA	4" 90 Degree Elbow, Vacuum Tubing, Galvanized	110.98	17.46
23 35 13 13-0035	EA	5" 90 Degree Elbow, Vacuum Tubing, Galvanized	182.85	19.42
23 35 13 13-0036	EA	6" 90 Degree Elbow, Vacuum Tubing, Galvanized	242.44	21.83
23 35 13 13-0037	EA	8" 90 Degree Elbow, Vacuum Tubing, Galvanized	434.48	29.14

23 35 13 13-0038 45 Degree Elbow ^(23 35 13 13-0028)

23 35 13 13-0039	EA	2-1/8" 45 Degree Elbow, Vacuum Tubing, Galvanized	48.28	12.55
23 35 13 13-0040	EA	2-1/2" 45 Degree Elbow, Vacuum Tubing, Galvanized	60.91	13.43
23 35 13 13-0041	EA	3" 45 Degree Elbow, Vacuum Tubing, Galvanized	70.24	14.63
23 35 13 13-0042	EA	3-1/2" 45 Degree Elbow, Vacuum Tubing, Galvanized	83.24	15.83
23 35 13 13-0043	EA	4" 45 Degree Elbow, Vacuum Tubing, Galvanized	101.74	17.46
23 35 13 13-0044	EA	5" 45 Degree Elbow, Vacuum Tubing, Galvanized	150.80	19.42
23 35 13 13-0045	EA	6" 45 Degree Elbow, Vacuum Tubing, Galvanized	195.30	21.83
23 35 13 13-0046	EA	8" 45 Degree Elbow, Vacuum Tubing, Galvanized	355.29	29.14

23 35 13 13-0047 Wye ^(23 35 13 13-0028)

23 35 13 13-0048	EA	2-1/8" Wye, Vacuum Tubing, Galvanized	93.25	20.73
23 35 13 13-0049	EA	2-1/2" Wye, Vacuum Tubing, Galvanized	111.78	22.37
23 35 13 13-0050	EA	3" Wye, Vacuum Tubing, Galvanized	136.11	24.01
23 35 13 13-0051	EA	3-1/2" Wye, Vacuum Tubing, Galvanized	165.14	26.74
23 35 13 13-0052	EA	4" Wye, Vacuum Tubing, Galvanized	219.51	28.92
23 35 13 13-0053	EA	5" Wye, Vacuum Tubing, Galvanized	369.44	32.20



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 35 13 13-0054 EA 6" Wye, Vacuum Tubing, Galvanized	488.95	36.56
23 35 13 13-0055 EA 8" Wye, Vacuum Tubing, Galvanized	993.25	39.83
23 35 13 13-0056 EA 10" Wye, Vacuum Tubing, Galvanized	1,333.01	43.66
23 35 13 13-0057 EA 12" Wye, Vacuum Tubing, Galvanized	1,663.48	48.90
23 35 13 13-0058 Reducer (23 35 13 13-0028)		
23 35 13 13-0059 EA 3" Reducer, Vacuum Tubing, Galvanized	53.26	14.63
23 35 13 13-0060 EA 4" Reducer, Vacuum Tubing, Galvanized	59.19	15.83
23 35 13 13-0061 EA 5" Reducer, Vacuum Tubing, Galvanized	74.56	17.46
23 35 13 13-0062 EA 6" Reducer, Vacuum Tubing, Galvanized	80.49	19.42
23 35 13 13-0063 EA 8" Reducer, Vacuum Tubing, Galvanized	94.09	21.83
23 35 13 13-0064 Air Gate Valve, Galvanized (23 35 13 13-0011)		
23 35 13 13-0065 EA 2-1/8" Air Gate Valve, Vacuum Tubing, Galvanized	362.97	29.14
23 35 13 13-0066 EA 2-1/2" Air Gate Valve, Vacuum Tubing, Galvanized	380.27	31.11
23 35 13 13-0067 EA 3" Air Gate Valve, Vacuum Tubing, Galvanized	436.61	33.51
23 35 13 13-0068 EA 3-1/2" Air Gate Valve, Vacuum Tubing, Galvanized	497.32	35.80
23 35 13 13-0069 EA 4" Air Gate Valve, Vacuum Tubing, Galvanized	560.50	37.98
23 35 13 13-0070 EA 5" Air Gate Valve, Vacuum Tubing, Galvanized	661.74	43.33
23 35 13 13-0071 EA 6" Air Gate Valve, Vacuum Tubing, Galvanized	762.05	48.57
23 35 16 Engine Exhaust Systems (23 35)		
23 35 16 16 Mechanical Engine Exhaust Systems (23 35 16)		
23 35 16 16-0001 Overhead Tailpipe Exhaust System (23 35 16 16)		
23 35 16 16-0002 Overhead Tailpipe Exhaust Blowers (23 35 16 16-0001)		
23 35 16 16-0003 Overhead Direct Drive Tailpipe Exhaust Blowers (23 35 16 16-0002)		
23 35 16 16-0004 EA 495 CFM 1/3 HP Tailpipe Exhaust Blower, Direct Drive, Overhead System	3,719.36	232.48
23 35 16 16-0005 EA 1,445 CFM 3/4 HP Tailpipe Exhaust Blower, Direct Drive, Overhead System	4,262.35	474.78
23 35 16 16-0006 EA 1,840 CFM 1-1/2 HP Tailpipe Exhaust Blower, Direct Drive, Overhead System	5,950.05	575.19
23 35 16 16-0007 Overhead Belt Drive Tailpipe Exhaust Blowers (23 35 16 16-0002)		
23 35 16 16-0008 EA 1,400 CFM 1 HP Tailpipe Exhaust Blower, Belt Drive, Overhead System	4,141.51	474.78
23 35 16 16-0009 EA 2,023 CFM 1-1/2 HP Tailpipe Exhaust Blower, Belt Drive, Overhead System	4,397.77	575.19
23 35 16 16-0010 EA 2,750 CFM 2 HP Tailpipe Exhaust Blower, Belt Drive, Overhead System	5,218.72	910.26
23 35 16 16-0011 EA 4,400 CFM 3 HP Tailpipe Exhaust Blower, Belt Drive, Overhead System	6,374.36	1,174.39
23 35 16 16-0012 EA 7,060 CFM 5 HP Tailpipe Exhaust Blower, Belt Drive, Overhead System	8,072.84	1,399.22
23 35 16 16-0013 Spiral Exhaust Duct Accessories (23 35 16 16-0001)		
23 35 16 16-0014 Flex Hose x Length (23 35 16 16-0013)		
Note: Includes duct coupler, damper and tailpipe adapter.		
23 35 16 16-0015 EA 3" x 20' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	170.78	57.85
23 35 16 16-0016 EA 3" x 20' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	145.26	57.85
23 35 16 16-0017 EA 4" x 20' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	261.70	91.69
23 35 16 16-0018 EA 4" x 20' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	219.06	91.69
23 35 16 16-0019 EA 5" x 20' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	369.99	145.16
23 35 16 16-0020 EA 5" x 20' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	354.72	145.16
23 35 16 16-0021 EA 6" x 15' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	564.66	230.30
23 35 16 16-0022 EA 6" x 17' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	532.56	230.30
23 35 16 16-0023 Flex Hose With Duct Coupler, Damper And Diesel Exhaust Adapter (23 35 16 16-0013)		
23 35 16 16-0024 EA 4" x 15' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	191.13	57.85
23 35 16 16-0025 EA 5" x 15' Neoprene Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	276.56	91.69
23 35 16 16-0026 EA 4" x 17' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	161.73	57.85
23 35 16 16-0027 EA 5" x 17' Galvanized Spiral Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	232.95	91.69
23 35 16 16-0028 EA 6" x 25' High Pressure, Stainless Steel Exhaust Flexible Hose With Duct Coupler, Damper, Tailpipe Adapter	1,535.16	77.93
23 35 16 16-0029 EA 8" x 15' Heat-Resistant Fabric Flex Hose (650 Degree F.) With Duct Coupler, Damper And Tail-Pipe Adapter	1,336.06	142.98
23 35 16 16-0030 EA 10" x 15' Heat-Resistant Fabric Flex Hose (650 Degree F.) With Duct Coupler, Damper And Tail-Pipe Adapter	1,474.26	142.98
23 35 16 16-0031 LF 8" Heat-Resistant Fabric Flex Hose (650 Degree F.)	70.70	11.13
23 35 16 16-0032 LF 10" Heat-Resistant Fabric Flex Hose (650 Degree F.)	79.19	11.13
23 35 16 16-0033 Flexible Hose (23 35 16 16-0013)		
23 35 16 16-0034 LF 3" Stainless Steel Flexible Tubing	42.46	2.73
23 35 16 16-0035 LF 4" Stainless Steel Flexible Tubing	54.15	3.05
23 35 16 16-0036 LF 5" Stainless Steel Flexible Tubing	64.46	3.16
23 35 16 16-0037 LF 6" Stainless Steel Flexible Tubing	76.19	3.38
23 35 16 16-0038 LF 3" Galvanized Flexible Tubing	25.43	2.73
23 35 16 16-0039 LF 4" Galvanized Flexible Tubing	29.93	3.05
23 35 16 16-0040 LF 5" Galvanized Flexible Tubing	34.43	3.16
23 35 16 16-0041 LF 6" Galvanized Flexible Tubing	38.49	3.38

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 35 Special Exhaust Systems**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT
UNIT COST
DEMOLITION
UNIT COST

23 35 16 16-0042 Accessories (23 35 16 16-0001)

23 35 16 16-0043	EA	3" Tail Pipe Adapter	58.55	8.19
23 35 16 16-0044	EA	4" Tail Pipe Adapter	60.24	8.19
23 35 16 16-0045	EA	5" Tail Pipe Adapter	64.12	9.28
23 35 16 16-0046	EA	3" Bullnose (Guide).....	32.47	5.46
23 35 16 16-0047	EA	4" Bullnose (Guide).....	34.51	6.00
23 35 16 16-0048	EA	5" Bullnose (Guide).....	36.82	6.55
23 35 16 16-0049	EA	Flex-Hose Winch And Associated Hardware	237.30	61.89
23 35 16 16-0050	LF	Flex-Hose Winch Cable, 1/8" Galvanized Wire Rope	0.14	

23 35 19 Fume Exhaust Systems (23 35)

23 35 19 00-0001	EA	Fume Exhauster, 1 1/2 HP 630 CFM With Out Hose And Intake Nozzle	2,569.73	436.25
23 35 19 00-0002	EA	Hose Extension Kit 5'	406.72	96.92

23 36 Air Terminal Units (23 30)**23 36 13 Constant-Air-Volume Units** (23 36)**23 36 13 00-0001 Vertical Units, With Electric Heating Coils** (23 36 13)

23 36 13 00-0002	EA	60 CFM Vertical Induction Unit, With Electric Heating Coils	1,759.22	144.90
23 36 13 00-0003	EA	90 CFM Vertical Induction Unit, With Electric Heating Coils	2,120.67	156.05
23 36 13 00-0004	EA	120 CFM Vertical Induction Unit, With Electric Heating Coils	2,263.63	161.63
23 36 13 00-0005	EA	150 CFM Vertical Induction Unit, With Electric Heating Coils	2,417.74	172.77
23 36 13 00-0006	EA	175 CFM Vertical Induction Unit, With Electric Heating Coils	2,731.24	178.34

23 36 13 00-0007 Horizontal Units, With Electric Heating Coils (23 36 13)

23 36 13 00-0008	EA	60 CFM Horizontal Induction Unit, With Electric Heating Coils	1,488.02	144.90
23 36 13 00-0009	EA	90 CFM Horizontal Induction Unit, With Electric Heating Coils	1,781.51	156.05
23 36 13 00-0010	EA	120 CFM Horizontal Induction Unit, With Electric Heating Coils	2,130.90	164.41

23 36 13 00-0011 Duct Boxes, Constant Volume Control (23 36 13)**23 36 13 00-0012 Single Duct Boxes, Constant Volume Control** (23 36 13 00-0011)

23 36 13 00-0013	EA	4 - 6" Diameter Inlet, 50 - 240 CFM, Single Duct Boxes, Constant Volume Control	1,374.61	44.94
		For Boxes With Motor, Add	239.44	
23 36 13 00-0014	EA	6 - 8" Diameter Inlet, 100 - 480 CFM, Single Duct Boxes, Constant Volume Control	1,521.60	48.49
		For Boxes With Motor, Add	265.61	
23 36 13 00-0015	EA	7 - 10" Diameter Inlet, 150 - 720 CFM, Single Duct Boxes, Constant Volume Control	1,580.20	53.22
		For Boxes With Motor, Add	273.46	
23 36 13 00-0016	EA	9 - 12" Diameter Inlet, 200 - 960 CFM, Single Duct Boxes, Constant Volume Control	1,608.69	55.59
		For Boxes With Motor, Add	277.39	
23 36 13 00-0017	EA	12" Diameter Inlet, 250 - 1,200 CFM, Single Duct Boxes, Constant Volume Control	1,631.63	61.50
		For Boxes With Motor, Add	277.39	
23 36 13 00-0018	EA	14" Diameter Inlet, 350 - 1,680 CFM, Single Duct Boxes, Constant Volume Control	1,866.22	68.60
		For Boxes With Motor, Add	317.95	
23 36 13 00-0019	EA	16" Diameter Inlet, 450 - 2,160 CFM, Single Duct Boxes, Constant Volume Control	1,957.15	76.88
		For Boxes With Motor, Add	329.72	
23 36 13 00-0020	EA	20" x 16" Inlet, 550 - 2,640 CFM, Single Duct Boxes, Constant Volume Control	2,075.13	92.26
		For Boxes With Motor, Add	341.62	
23 36 13 00-0021	EA	24" x 16" Inlet, 650 - 3,120 CFM, Single Duct Boxes, Constant Volume Control	2,192.15	106.45
		For Boxes With Motor, Add	353.28	

23 36 13 00-0022 Dual Duct Boxes, Constant Volume Control (23 36 13 00-0011)

23 36 13 00-0023	EA	4 - 6" Diameter Inlet, 50 - 240 CFM, Dual Duct Boxes, Constant Volume Control	1,937.83	44.94
		For Boxes With Motor, Add	352.09	
23 36 13 00-0024	EA	6 - 8" Diameter Inlet, 100 - 480 CFM, Dual Duct Boxes, Constant Volume Control	2,072.81	48.49
		For Boxes With Motor, Add	375.85	
23 36 13 00-0025	EA	7 - 10" Diameter Inlet, 150 - 720 CFM, Dual Duct Boxes, Constant Volume Control	2,162.73	53.22
		For Boxes With Motor, Add	389.97	
23 36 13 00-0026	EA	9 - 12" Diameter Inlet, 200 - 960 CFM, Dual Duct Boxes, Constant Volume Control	2,253.30	55.59
		For Boxes With Motor, Add	406.31	
23 36 13 00-0027	EA	12" Diameter Inlet, 250 - 1,200 CFM, Dual Duct Boxes, Constant Volume Control	2,276.24	61.50
		For Boxes With Motor, Add	406.31	
23 36 13 00-0028	EA	14" Diameter Inlet, 350 - 1,680 CFM, Dual Duct Boxes, Constant Volume Control	2,616.29	69.78
		For Boxes With Motor, Add	467.96	
23 36 13 00-0029	EA	16" Diameter Inlet, 450 - 2,160 CFM, Dual Duct Boxes, Constant Volume Control	2,859.85	76.88
		For Boxes With Motor, Add	510.30	
23 36 13 00-0030	EA	20" x 16" Inlet, 550 - 2,640 CFM, Dual Duct Boxes, Constant Volume Control	3,078.25	92.26
		For Boxes With Motor, Add	542.24	
23 36 13 00-0031	EA	24" x 16" Inlet, 650 - 3,120 CFM, Dual Duct Boxes, Constant Volume Control	3,211.25	106.45
		For Boxes With Motor, Add	557.10	

23 36 16 Variable-Air-Volume Units (23 36)



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 36 16 00-0001			Variable Volume Terminal Unit (23 36 16) Note: Includes flow controllers, insulated plenum, system powered box mounted thermostat.		
23 36 16 00-0002			Single Duct Variable Volume Terminal Unit (23 36 16 00-0001) Note: Enclosure only. For mounting DDC controls.		
23 36 16 00-0003	EA		6" Diameter Inlet, 80 To 500 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	590.29	54.40
			For Filters And Frames, Add	6.30	
23 36 16 00-0004	EA		8" Diameter Inlet, 145 To 900 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	660.29	61.50
			For Filters And Frames, Add	6.30	
23 36 16 00-0005	EA		10" Diameter Inlet, 230 To 1,400 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	734.81	68.60
			For Filters And Frames, Add	6.30	
23 36 16 00-0006	EA		12" Diameter Inlet, 325 To 2,000 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	783.45	76.88
			For Filters And Frames, Add	6.30	
23 36 16 00-0007	EA		14" Diameter Inlet, 450 To 3,000 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	1,081.66	165.46
			For Filters And Frames, Add	6.30	
23 36 16 00-0008	EA		16" Diameter Inlet, 580 To 4,000 CFM, Variable Air Volume Box With Enclosure Only Note: For mounting DDC controls	1,299.25	196.33
			For Filters And Frames, Add	6.30	
23 36 16 00-0009			Single Duct Variable Volume Terminal Unit (23 36 16 00-0001) Note: With pneumatic controls.		
23 36 16 00-0010	EA		6" Diameter Inlet, 80 - 500 CFM, Variable Air Volume Box With pneumatic controller For Fan Powered Variable Air Volume Box, Add For Hot Water Coils, Add For Pressure Independent Actuator, Add For Filters And Frames, Add	1,248.30 1,329.62 419.02 67.57 6.30	54.40
23 36 16 00-0011	EA		8" Diameter Inlet, 145 - 900 CFM, Variable Air Volume Box With pneumatic controller For Fan Powered Variable Air Volume Box, Add For Hot Water Coils, Add For Pressure Independent Actuator, Add For Filters And Frames, Add	1,349.18 1,423.92 447.92 67.57 6.30	61.50
23 36 16 00-0012	EA		10" Diameter Inlet, 230 - 1,400 CFM, Variable Air Volume Box With pneumatic controller For Fan Powered Variable Air Volume Box, Add For Hot Water Coils, Add For Pressure Independent Actuator, Add For Filters And Frames, Add	1,411.83 1,468.14 460.44 67.57 6.30	68.60
23 36 16 00-0013	EA		12" Diameter Inlet, 325 - 2,000 CFM, Variable Air Volume Box With pneumatic controller For Fan Powered Variable Air Volume Box, Add For Hot Water Coils, Add For Pressure Independent Actuator, Add For Filters And Frames, Add	1,472.34 1,509.41 472.00 67.57 6.30	76.88
23 36 16 00-0014	EA		14" Diameter Inlet, 450 To 3,000 CFM, Variable Air Volume Box With pneumatic controller For Fan Powered Variable Air Volume Box, Add For Hot Water Coils, Add For Pressure Independent Actuator, Add For Filters And Frames, Add	1,706.42 1,693.53 525.94 67.57 6.30	165.46
23 36 16 00-0015	EA		16" Diameter Inlet, 580 To 4,000 CFM, Variable Air Volume Box With pneumatic controller For Fan Powered Variable Air Volume Box, Add For Hot Water Coils, Add For Pressure Independent Actuator, Add For Filters And Frames, Add	1,976.26 1,835.51 561.58 67.57 6.30	196.33
23 36 16 00-0016			Single Duct Variable Volume Terminal Unit (23 36 16 00-0001) Note: With analog electronic controls.		
23 36 16 00-0017	EA		6" Diameter Inlet, 60 To 500 CFM, Variable Air Volume Box With Analog Electronic Controls For Hot Water Coils, Add For Filters And Frames, Add	2,067.84 751.34 6.30	54.40
23 36 16 00-0018	EA		8" Diameter Inlet, 105 To 900 CFM, Variable Air Volume Box With Analog Electronic Controls For Hot Water Coils, Add For Filters And Frames, Add	2,149.72 772.53 6.30	61.50
23 36 16 00-0019	EA		10" Diameter Inlet, 165 To 1,400 CFM, Variable Air Volume Box With Analog Electronic Controls For Hot Water Coils, Add For Filters And Frames, Add	2,224.24 789.87 6.30	68.60
23 36 16 00-0020	EA		12" Diameter Inlet, 235 To 2,000 CFM, Variable Air Volume Box With Analog Electronic Controls For Hot Water Coils, Add For Filters And Frames, Add	2,329.89 819.73 6.30	76.88
23 36 16 00-0021	EA		14" Diameter Inlet, 320 To 3,000 CFM, Variable Air Volume Box With Analog Electronic Controls For Hot Water Coils, Add For Filters And Frames, Add	2,566.35 874.64 6.30	165.46
23 36 16 00-0022	EA		16" Diameter Inlet, 420 To 4,000 CFM, Variable Air Volume Box With Analog Electronic Controls For Hot Water Coils, Add For Filters And Frames, Add	2,613.86 893.91 6.30	165.46
23 36 16 00-0023			Dual Duct Variable Volume Terminal Unit (23 36 16 00-0001) Note: With flow control installation, plenum system power box, thermostat.		
23 36 16 00-0024	EA		6" Diameter Inlet, 75 - 500 CFM, Variable Air Volume Box, Dual Duct..... For Filters And Frames, Add	1,414.69 6.30	107.51

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 36 Air Terminal Units**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 36 16 00-0025 EA 8" Diameter Inlet, 200 - 700 CFM, Variable Air Volume Box, Dual Duct For Filters And Frames, Add	1,546.53 6.30	122.41
23 36 16 00-0026 EA 10" Diameter Inlet, 400 - 1,000 CFM, Variable Air Volume Box, Dual Duct For Filters And Frames, Add	1,654.90 6.30	138.26
23 36 16 00-0027 EA 12" Diameter Inlet, 600 - 1,400 CFM, Variable Air Volume Box, Dual Duct For Filters And Frames, Add	1,814.58 6.30	154.22
23 36 16 00-0028 EA 14" Diameter Inlet, 800 - 2,700 CFM, Variable Air Volume Box, Dual Duct For Filters And Frames, Add	2,039.55 6.30	177.40
23 36 16 00-0029 EA 16" Diameter Inlet, 1,000 - 3,500 CFM, Variable Air Volume Box, Dual Duct For Filters And Frames, Add	2,238.13 6.30	212.89

23 36 16 00-0030 Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-M) (23 36 16 00-0001)

23 36 16 00-0031 EA 0 To 200 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-A) For Filters And Frames, Add	601.78 6.30	73.92
23 36 16 00-0032 EA 0 To 300 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-B) For Filters And Frames, Add	652.77 6.30	81.31
23 36 16 00-0033 EA 0 To 400 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-C) For Filters And Frames, Add	705.27 6.30	88.70
23 36 16 00-0034 EA 0 To 700 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-D) For Filters And Frames, Add	759.36 6.30	96.09
23 36 16 00-0035 EA 0 To 1,000 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-E) For Filters And Frames, Add	815.19 6.30	103.48
23 36 16 00-0036 EA 0 To 1,000 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-F) For Filters And Frames, Add	872.83 6.30	110.88
23 36 16 00-0037 EA 0 To 1,100 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-G) For Filters And Frames, Add	937.50 6.30	118.27
23 36 16 00-0038 EA 0 To 1,900 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-H) For Filters And Frames, Add	999.58 6.30	125.66
23 36 16 00-0039 EA 0 To 2,400 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-J) For Filters And Frames, Add	1,063.94 6.30	133.05
23 36 16 00-0040 EA 0 To 3,800 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-K) For Filters And Frames, Add	1,130.72 6.30	140.44
23 36 16 00-0041 EA 0 To 5,400 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-L) For Filters And Frames, Add	1,200.12 6.30	147.84
23 36 16 00-0042 EA 0 To 5,400 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-M) For Filters And Frames, Add	1,272.29 6.30	155.23
23 36 16 00-0043 EA 0 To 6,700 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-N) For Filters And Frames, Add	1,347.46 6.30	162.62
23 36 16 00-0044 EA 0 To 10,000 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-P) For Filters And Frames, Add	1,418.90 6.30	170.01
23 36 16 00-0045 EA 0 To 15,000 CFM Digital Control, Constant Volume To Variable Volume Retrofit Terminal Unit (Titus DQCV-R) For Filters And Frames, Add	1,500.19 6.30	177.40

23 37 Air Outlets and Inlets (23 30)**23 37 13 Diffusers, Registers, and Grilles (23 37)****23 37 13 13 Diffusers, Registers, and Grilles (23 37 13)****23 37 13 13-0001 Ceiling Diffusers (23 37 13 13)****23 37 13 13-0002 Ceiling Diffusers With Perforated Face (23 37 13 13-0001)**

Note: Flush mount, aluminum construction, includes damper.

23 37 13 13-0003 EA 6" x 6" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper For Steel Construction, Deduct For Surface Mount, Deduct For Diffuser Without Damper, Deduct For Stainless Steel, Add	125.30 -9.67 -7.74 -12.89 161.18	15.38
23 37 13 13-0004 EA 8" x 8" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper For Steel Construction, Deduct For Surface Mount, Deduct For Diffuser Without Damper, Deduct For Stainless Steel, Add	139.63 -11.82 -9.46 -15.76 197.00	15.38
23 37 13 13-0005 EA 9" x 9" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper For Steel Construction, Deduct For Surface Mount, Deduct For Diffuser Without Damper, Deduct For Stainless Steel, Add	139.63 -11.82 -9.46 -15.76 197.00	15.38
23 37 13 13-0006 EA 10" x 10" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper For Steel Construction, Deduct For Surface Mount, Deduct For Diffuser Without Damper, Deduct For Stainless Steel, Add	167.73 -14.15 -11.32 -18.86 235.80	18.92
23 37 13 13-0007 EA 12" x 12" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper For Steel Construction, Deduct For Surface Mount, Deduct For Diffuser Without Damper, Deduct For Stainless Steel, Add	167.73 -14.15 -11.32 -18.86 235.80	17.74



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0008	EA		16" x 16" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper	194.00	17.74
			For Steel Construction, Deduct	-18.09	
			For Surface Mount, Deduct	-14.47	
			For Diffuser Without Damper, Deduct	-24.12	
			For Stainless Steel, Add	301.48	
23 37 13 13-0009	EA		18" x 18" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper	221.82	23.66
			For Steel Construction, Deduct	-19.45	
			For Surface Mount, Deduct	-15.56	
			For Diffuser Without Damper, Deduct	-25.93	
			For Stainless Steel, Add	324.15	
23 37 13 13-0010	EA		20" x 20" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper	258.67	24.83
			For Steel Construction, Deduct	-24.29	
			For Surface Mount, Deduct	-19.43	
			For Diffuser Without Damper, Deduct	-32.38	
			For Stainless Steel, Add	404.75	
23 37 13 13-0011	EA		24" x 24" Ceiling Diffuser With Perforated Face, Flush Mount, Aluminum Construction With Damper	292.69	28.39
			For Steel Construction, Deduct	-27.01	
			For Surface Mount, Deduct	-21.61	
			For Lay-In Mount, Deduct	-21.61	
			For Diffuser Without Damper, Deduct	-36.01	
			For Stainless Steel, Add	450.13	
23 37 13 13-0012			Ceiling Diffusers With Louver Face (23 37 13 13-0001) Note: 1 To 4 way adjustable pattern, surface mount aluminum construction.		
23 37 13 13-0013	EA		6" x 6" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	130.08	15.38
			For Steel Construction, Deduct	-10.39	
			For Flush Mount, Add	10.39	
			For Stainless Steel, Add	173.13	
23 37 13 13-0014	EA		8" x 8" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	148.70	15.38
			For Steel Construction, Deduct	-13.18	
			For Flush Mount, Add	13.18	
			For Stainless Steel, Add	219.68	
23 37 13 13-0015	EA		9" x 9" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	148.70	15.38
			For Steel Construction, Deduct	-13.18	
			For Flush Mount, Add	13.18	
			For Stainless Steel, Add	219.68	
23 37 13 13-0016	EA		10" x 10" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	178.48	17.74
			For Steel Construction, Deduct	-15.76	
			For Flush Mount, Add	15.76	
			For Stainless Steel, Add	262.68	
23 37 13 13-0017	EA		12" x 12" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	178.48	18.92
			For Steel Construction, Deduct	-15.76	
			For Flush Mount, Add	15.76	
			For Stainless Steel, Add	262.68	
23 37 13 13-0018	EA		24" x 12" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	230.10	23.66
			For Steel Construction, Deduct	-20.63	
			For Flush Mount, Add	20.63	
			For Stainless Steel, Add	343.85	
23 37 13 13-0019	EA		14" x 14" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	204.79	23.66
			For Steel Construction, Deduct	-16.83	
			For Flush Mount, Add	16.83	
			For Stainless Steel, Add	280.58	
23 37 13 13-0020	EA		18" x 18" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	256.03	28.39
			For Steel Construction, Deduct	-21.60	
			For Flush Mount, Add	21.60	
			For Stainless Steel, Add	359.98	
23 37 13 13-0021	EA		21" x 21" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	297.23	31.93
			For Steel Construction, Deduct	-26.86	
			For Flush Mount, Add	26.86	
			For Stainless Steel, Add	447.73	
23 37 13 13-0022	EA		24" x 24" Ceiling Diffuser, Louver Face, Adjustable Pattern, Surface Mounted, Aluminum Construction With Damper	325.10	62.57
			For Steel Construction, Deduct	-29.98	
			For Flush Mount, Add	29.98	
			For Lay-In Mount, Add	39.97	
			For Stainless Steel, Add	499.68	
23 37 13 13-0023			Round Ceiling Diffusers With Fixed Pattern (23 37 13 13-0001) Note: Aluminum construction.		
23 37 13 13-0024	EA		6" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	215.83	15.38
			For Steel Construction, Deduct	-46.50	
			For Stainless Steel, Add	387.50	
23 37 13 13-0025	EA		8" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	223.78	15.38
			For Steel Construction, Deduct	-48.89	
			For Stainless Steel, Add	407.38	
23 37 13 13-0026	EA		10" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	252.25	18.92
			For Steel Construction, Deduct	-53.65	
			For Stainless Steel, Add	447.10	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0027	EA	12" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	272.13	17.74
		For Steel Construction, Deduct	-59.62	
		For Stainless Steel, Add	496.80	
23 37 13 13-0028	EA	14" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	391.18	21.29
		For Steel Construction, Deduct	-91.81	
		For Stainless Steel, Add	765.05	
23 37 13 13-0029	EA	16" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	412.61	22.47
		For Steel Construction, Deduct	-97.17	
		For Stainless Steel, Add	809.78	
23 37 13 13-0030	EA	18" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	434.35	23.66
		For Steel Construction, Deduct	-102.54	
		For Stainless Steel, Add	854.48	
23 37 13 13-0031	EA	20" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	503.03	23.66
		For Steel Construction, Deduct	-121.88	
		For Stainless Steel, Add	1,015.65	
23 37 13 13-0032	EA	24" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	601.03	27.20
		For Steel Construction, Deduct	-148.37	
		For Stainless Steel, Add	1,236.45	
23 37 13 13-0033	EA	28" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	677.28	28.39
		For Steel Construction, Deduct	-169.57	
		For Stainless Steel, Add	1,413.10	
23 37 13 13-0034	EA	32" Round Ceiling Diffuser With Fixed Pattern, Aluminum Construction	809.70	31.93
		For Steel Construction, Deduct	-205.34	
		For Stainless Steel, Add	1,711.18	
23 37 13 13-0035		Round Ceiling Diffusers With Adjustable Pattern Dropped Style (23 37 13 13-0001)		
		Note: Aluminum construction.		
23 37 13 13-0036	EA	6" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	227.75	15.38
		For Steel Construction, Deduct	-16.69	
		For Flush Mount, Deduct	-8.35	
		For Stainless Steel, Add	417.30	
23 37 13 13-0037	EA	8" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	248.29	15.38
		For Steel Construction, Deduct	-18.75	
		For Flush Mount, Deduct	-9.37	
		For Stainless Steel, Add	468.65	
23 37 13 13-0038	EA	10" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	280.96	18.92
		For Steel Construction, Deduct	-20.76	
		For Flush Mount, Deduct	-10.38	
		For Stainless Steel, Add	518.88	
23 37 13 13-0039	EA	12" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	303.92	18.92
		For Steel Construction, Deduct	-23.05	
		For Flush Mount, Deduct	-11.53	
		For Stainless Steel, Add	576.28	
23 37 13 13-0040	EA	14" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	442.85	21.29
		For Steel Construction, Deduct	-35.77	
		For Flush Mount, Deduct	-17.88	
		For Stainless Steel, Add	894.23	
23 37 13 13-0041	EA	16" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	391.07	22.47
		For Steel Construction, Deduct	-38.22	
		For Flush Mount, Deduct	-19.11	
		For Stainless Steel, Add	955.50	
23 37 13 13-0042	EA	18" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	499.27	23.66
		For Steel Construction, Deduct	-40.67	
		For Flush Mount, Deduct	-20.34	
		For Stainless Steel, Add	1,016.78	
23 37 13 13-0043	EA	20" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	580.31	24.83
		For Steel Construction, Deduct	-48.35	
		For Flush Mount, Deduct	-24.18	
		For Stainless Steel, Add	1,208.85	
23 37 13 13-0044	EA	24" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	655.79	27.20
		For Steel Construction, Deduct	-54.93	
		For Flush Mount, Deduct	-27.47	
		For Stainless Steel, Add	1,373.35	
23 37 13 13-0045	EA	28" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	796.51	28.39
		For Steel Construction, Deduct	-68.45	
		For Flush Mount, Deduct	-34.22	
		For Stainless Steel, Add	1,711.18	
23 37 13 13-0046	EA	32" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	960.28	31.93
		For Steel Construction, Deduct	-83.51	
		For Flush Mount, Deduct	-41.75	
		For Stainless Steel, Add	2,087.63	
23 37 13 13-0047	EA	36" Round Ceiling Diffuser With Adjustable Pattern, Aluminum Construction	1,064.38	66.59
		For Stainless Steel, Add	2,328.33	
23 37 13 13-0048		Linear Type Ceiling Diffusers With 2-Way Air Deflection (23 37 13 13-0001)		
23 37 13 13-0049	LF	4" Linear Type Ceiling Diffuser 40-200 CFM/LF, With 2-Way Air Deflection.....	171.27	17.74
		For Stainless Steel, Add	250.75	
23 37 13 13-0050	LF	6-1/4" Linear Type Ceiling Diffuser, 41 - 206 CFM/LF, With 2-Way Air Deflection.....	184.90	17.74
		For Stainless Steel, Add	284.83	
23 37 13 13-0051	LF	9-1/4" Linear Type Ceiling Diffuser, 62 - 312 CFM/LF, With 2-Way Air Deflection.....	201.68	17.74
		For Stainless Steel, Add	326.78	
23 37 13 13-0052	LF	12-1/4" Linear Type Ceiling Diffuser, 131 - 656 CFM/LF, With 2-Way Air Deflection.....	218.02	17.74
		For Stainless Steel, Add	367.63	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Outlets and Inlets			23 37	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0053			Wall And Floor Diffusers (23 37 13 13)		
23 37 13 13-0054			Slot Type Linear Diffusers (23 37 13 13-0053)		
			Note: For sidewall sill or ceiling 1/2" 3/4" or 1" slot spacing 1-1/8" border.		
23 37 13 13-0055	LF		1 Slot Linear Diffusers 10 - 70 CFM/LF, Sidewall, Sill, Ceiling	57.96	5.91
			For 3/4" Border, Add	8.28	
			For Floor Mounted Diffusers, Add	9.94	
			For Stainless Steel, Add	43.06	
23 37 13 13-0056	LF		2 Slot Linear Diffusers 20 - 140 CFM/LF, Sidewall, Sill, Ceiling.....	71.35	7.10
			For 3/4" Border, Add	11.04	
			For Floor Mounted Diffusers, Add	13.25	
			For Stainless Steel, Add	57.41	
23 37 13 13-0057	LF		3 Slot Linear Diffusers 30 - 210 CFM/LF, Sidewall, Sill, Ceiling.....	100.32	8.28
			For 3/4" Border, Add	17.39	
			For Floor Mounted Diffusers, Add	20.87	
			For Stainless Steel, Add	90.42	
23 37 13 13-0058	LF		4 Slot Linear Diffusers 40 - 280 CFM/LF, Sidewall, Sill, Ceiling.....	133.64	8.28
			For 3/4" Border, Add	24.84	
			For Floor Mounted Diffusers, Add	29.81	
			For Stainless Steel, Add	129.17	
23 37 13 13-0059	LF		5 Slot Linear Diffusers 50 - 350 CFM/LF, Sidewall, Sill, Ceiling.....	168.23	9.47
			For 3/4" Border, Add	32.29	
			For Floor Mounted Diffusers, Add	38.75	
			For Stainless Steel, Add	167.92	
23 37 13 13-0060	LF		6 Slot Linear Diffusers 60 - 420 CFM/LF, Sidewall, Sill, Ceiling.....	197.26	11.82
			For 3/4" Border, Add	38.09	
			For Floor Mounted Diffusers, Add	45.71	
			For Stainless Steel, Add	198.06	
23 37 13 13-0061			Linear Bar Grilles And Registers (23 37 13 13-0053)		
			Note: For sidewall sill or ceiling or 15 degree deflection 1/2" bar spacing 1" border aluminum construction.		
23 37 13 13-0062	LF		2" Wide Linear Bar Grilles/Registers 30 - 70 CFM/LF, Sidewall, Sill, Ceiling.....	187.27	7.10
			For Floor Mount, Add	16.01	
			For Opposed Blade Damper, Add	32.02	
			For Stainless Steel, Add	208.10	
23 37 13 13-0063	LF		3" Wide Linear Bar Grilles/Registers 55 - 143 CFM/LF, Sidewall, Sill, Ceiling.....	223.97	8.28
			For Floor Mount, Add	19.32	
			For Opposed Blade Damper, Add	38.64	
			For Stainless Steel, Add	251.16	
23 37 13 13-0064	LF		4" Wide Linear Bar Grilles/Registers 80 - 208 CFM/LF, Sidewall, Sill, Ceiling.....	244.04	8.28
			For Floor Mount, Add	20.98	
			For Opposed Blade Damper, Add	41.95	
			For Stainless Steel, Add	272.69	
23 37 13 13-0065	LF		6" Wide Linear Bar Grilles/Registers 125 - 325 CFM/LF, Sidewall, Sill, Ceiling.....	298.83	11.82
			For Floor Mount, Add	25.39	
			For Opposed Blade Damper, Add	50.78	
			For Stainless Steel, Add	330.10	
23 37 13 13-0066	LF		9" Wide Linear Bar Grilles/Registers 225 - 450 CFM/LF, Sidewall, Sill, Ceiling.....	413.58	15.38
			For Floor Mount, Add	35.33	
			For Opposed Blade Damper, Add	70.65	
			For Stainless Steel, Add	459.25	
23 37 13 13-0067	LF		12" Wide Linear Bar Grilles/Registers 225 - 495 CFM/LF, Sidewall, Sill, Ceiling.....	476.36	17.74
			For Floor Mount, Add	40.30	
			For Opposed Blade Damper, Add	80.59	
			For Stainless Steel, Add	523.84	
23 37 13 13-0068			Return/Exhaust Registers And Grilles (23 37 13 13)		
23 37 13 13-0069			Return/Exhaust Registers With Frame (23 37 13 13-0068)		
			Note: Single deflection with opposed blade damper aluminum construction wall or ceiling mount.		
23 37 13 13-0070	EA		8" x 4" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	125.58	9.47
			For Steel Construction, Deduct	-17.77	
			For Grilles (No Damper), Deduct	-35.55	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	8.89	
			For Cube Core Lay In, Add	17.77	
			For Stainless Steel, Add	222.18	
23 37 13 13-0071	EA		8" x 6" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	144.90	9.47
			For Steel Construction, Deduct	-21.64	
			For Grilles (No Damper), Deduct	-43.28	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	10.82	
			For Cube Core Lay In, Add	21.64	
			For Stainless Steel, Add	270.48	
23 37 13 13-0072	EA		10" x 6" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	162.36	10.64
			For Steel Construction, Deduct	-23.96	
			For Grilles (No Damper), Deduct	-47.91	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	11.98	
			For Cube Core Lay In, Add	23.96	
			For Stainless Steel, Add	299.45	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0073 EA 10" x 10" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	169.29	11.82
For Steel Construction, Deduct	-23.96	
For Grilles (No Damper), Deduct	-47.91	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	11.98	
For Cube Core Lay In, Add	23.96	
For Stainless Steel, Add	299.45	
23 37 13 13-0074 EA 12" x 6" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	161.56	11.82
For Steel Construction, Deduct	-22.41	
For Grilles (No Damper), Deduct	-44.82	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	11.21	
For Cube Core Lay In, Add	22.41	
For Stainless Steel, Add	280.13	
23 37 13 13-0075 EA 12" x 12" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	207.66	15.38
For Steel Construction, Deduct	-29.37	
For Grilles (No Damper), Deduct	-58.73	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	14.68	
For Cube Core Lay In, Add	29.37	
For Stainless Steel, Add	367.08	
23 37 13 13-0076 EA 16" x 16" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	248.72	17.74
For Steel Construction, Deduct	-35.06	
For Grilles (No Damper), Deduct	-70.12	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	17.53	
For Cube Core Lay In, Add	35.06	
For Stainless Steel, Add	438.28	
23 37 13 13-0077 EA 18" x 18" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	305.39	21.29
For Steel Construction, Deduct	-44.05	
For Grilles (No Damper), Deduct	-88.09	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	22.02	
For Cube Core Lay In, Add	44.05	
For Stainless Steel, Add	550.58	
23 37 13 13-0078 EA 20" x 20" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	359.27	23.66
For Steel Construction, Deduct	-53.34	
For Grilles (No Damper), Deduct	-106.68	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	26.67	
For Cube Core Lay In, Add	53.34	
For Stainless Steel, Add	666.78	
23 37 13 13-0079 EA 24" x 12" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	319.85	23.66
For Steel Construction, Deduct	-44.62	
For Grilles (No Damper), Deduct	-89.23	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	22.31	
For Cube Core Lay In, Add	44.62	
For Stainless Steel, Add	557.70	
23 37 13 13-0080 EA 24" x 18" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	367.24	23.66
For Steel Construction, Deduct	-54.09	
For Grilles (No Damper), Deduct	-108.19	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	27.05	
For Cube Core Lay In, Add	54.09	
For Stainless Steel, Add	676.18	
23 37 13 13-0081 EA 24" x 24" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	386.78	27.20
For Steel Construction, Deduct	-56.07	
For Grilles (No Damper), Deduct	-112.13	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	28.03	
For Cube Core Lay In, Add	56.07	
For Stainless Steel, Add	700.83	
23 37 13 13-0082 EA 30" x 12" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	409.96	28.39
For Steel Construction, Deduct	-59.58	
For Grilles (No Damper), Deduct	-119.17	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	29.79	
For Cube Core Lay In, Add	59.58	
For Stainless Steel, Add	744.80	
23 37 13 13-0083 EA 30" x 18" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	472.97	31.93
For Steel Construction, Deduct	-69.55	
For Grilles (No Damper), Deduct	-139.10	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	34.77	
For Cube Core Lay In, Add	69.55	
For Stainless Steel, Add	869.35	
23 37 13 13-0084 EA 30" x 24" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	528.39	37.85
For Steel Construction, Deduct	-75.26	
For Grilles (No Damper), Deduct	-150.53	
For Removable Core, Add	35.00	
For Cube Core With Frame, Add	37.63	
For Cube Core Lay In, Add	75.26	
For Stainless Steel, Add	940.80	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0085	EA		30" x 30" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	692.00	37.85
			For Steel Construction, Deduct	-107.99	
			For Grilles (No Damper), Deduct	-215.97	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	53.99	
			For Cube Core Lay In, Add	107.99	
			For Stainless Steel, Add	1,349.83	
23 37 13 13-0086	EA		36" x 12" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	570.30	41.39
			For Steel Construction, Deduct	-81.31	
			For Grilles (No Damper), Deduct	-162.62	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	40.65	
			For Cube Core Lay In, Add	81.31	
			For Stainless Steel, Add	1,016.35	
23 37 13 13-0087	EA		36" x 18" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	554.75	40.21
			For Steel Construction, Deduct	-78.20	
			For Grilles (No Damper), Deduct	-156.40	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	39.10	
			For Cube Core Lay In, Add	78.20	
			For Stainless Steel, Add	977.48	
23 37 13 13-0088	EA		36" x 24" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	632.75	44.94
			For Steel Construction, Deduct	-91.07	
			For Grilles (No Damper), Deduct	-182.14	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	45.54	
			For Cube Core Lay In, Add	91.07	
			For Stainless Steel, Add	1,138.38	
23 37 13 13-0089	EA		36" x 36" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	863.69	48.49
			For Steel Construction, Deduct	-134.03	
			For Grilles (No Damper), Deduct	-268.06	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	67.02	
			For Cube Core Lay In, Add	134.03	
			For Stainless Steel, Add	1,675.38	
23 37 13 13-0090	EA		24" x 20" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	380.29	27.32
			For Steel Construction, Deduct	-54.23	
			For Grilles (No Damper), Deduct	-108.46	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	27.11	
			For Cube Core Lay In, Add	54.23	
			For Stainless Steel, Add	677.85	
23 37 13 13-0091	EA		32" x 40" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	659.06	40.94
			For Steel Construction, Deduct	-99.06	
			For Grilles (No Damper), Deduct	-198.12	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	49.53	
			For Cube Core Lay In, Add	99.06	
			For Stainless Steel, Add	1,238.25	
23 37 13 13-0092	EA		48" x 24" Single Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling.....	762.59	48.49
			For Steel Construction, Deduct	-113.67	
			For Grilles (No Damper), Deduct	-227.34	
			For Removable Core, Add	35.00	
			For Cube Core With Frame, Add	56.84	
			For Cube Core Lay In, Add	113.67	
			For Stainless Steel, Add	1,420.88	
23 37 13 13-0093			Return/Exhaust Registers Removable-Reversible (23 37 13 13-0068)		
			Note: Double deflection core and opposed blade damper radiused frame with boarder aluminum construction.		
23 37 13 13-0094	EA		8" x 4" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	115.53	9.47
			For Steel Construction, Deduct	-7.88	
			For Flat Frame, Deduct	-0.79	
			For Grilles (No Damper), Deduct	-15.76	
			For Stainless Steel, Add	197.05	
23 37 13 13-0095	EA		8" x 6" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	115.53	9.47
			For Steel Construction, Deduct	-7.88	
			For Flat Frame, Deduct	-0.79	
			For Grilles (No Damper), Deduct	-15.76	
			For Stainless Steel, Add	197.05	
23 37 13 13-0096	EA		10" x 6" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	142.27	10.64
			For Steel Construction, Deduct	-9.97	
			For Flat Frame, Deduct	-1.00	
			For Grilles (No Damper), Deduct	-19.94	
			For Stainless Steel, Add	249.23	
23 37 13 13-0097	EA		10" x 10" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	163.11	13.01
			For Steel Construction, Deduct	-11.36	
			For Flat Frame, Deduct	-1.14	
			For Grilles (No Damper), Deduct	-22.72	
			For Stainless Steel, Add	284.00	
23 37 13 13-0098	EA		12" x 6" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	160.79	11.82
			For Steel Construction, Deduct	-11.13	
			For Flat Frame, Deduct	-1.11	
			For Grilles (No Damper), Deduct	-22.26	
			For Stainless Steel, Add	278.20	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0099	EA	12" x 12" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	209.20	15.38
		For Steel Construction, Deduct	-14.84	
		For Flat Frame, Deduct	-1.48	
		For Grilles (No Damper), Deduct	-29.67	
		For Stainless Steel, Add	370.93	
23 37 13 13-0100	EA	16" x 16" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	341.57	18.92
		For Steel Construction, Deduct	-26.82	
		For Flat Frame, Deduct	-2.68	
		For Grilles (No Damper), Deduct	-53.63	
		For Stainless Steel, Add	670.40	
23 37 13 13-0101	EA	18" x 18" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	412.05	21.29
		For Steel Construction, Deduct	-32.69	
		For Flat Frame, Deduct	-3.27	
		For Grilles (No Damper), Deduct	-65.38	
		For Stainless Steel, Add	817.23	
23 37 13 13-0102	EA	20" x 20" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	465.82	23.66
		For Steel Construction, Deduct	-37.33	
		For Flat Frame, Deduct	-3.73	
		For Grilles (No Damper), Deduct	-74.65	
		For Stainless Steel, Add	933.15	
23 37 13 13-0103	EA	24" x 12" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	384.25	23.66
		For Steel Construction, Deduct	-28.75	
		For Flat Frame, Deduct	-2.87	
		For Grilles (No Damper), Deduct	-57.50	
		For Stainless Steel, Add	718.70	
23 37 13 13-0104	EA	24" x 18" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	523.35	24.83
		For Steel Construction, Deduct	-42.66	
		For Flat Frame, Deduct	-4.27	
		For Grilles (No Damper), Deduct	-85.32	
		For Stainless Steel, Add	1,066.45	
23 37 13 13-0105	EA	24" x 24" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	611.85	27.20
		For Steel Construction, Deduct	-50.54	
		For Flat Frame, Deduct	-5.05	
		For Grilles (No Damper), Deduct	-101.08	
		For Stainless Steel, Add	1,263.50	
23 37 13 13-0106	EA	30" x 12" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	464.43	28.39
		For Steel Construction, Deduct	-35.24	
		For Flat Frame, Deduct	-3.52	
		For Grilles (No Damper), Deduct	-70.48	
		For Stainless Steel, Add	880.98	
23 37 13 13-0107	EA	30" x 18" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	644.54	31.93
		For Steel Construction, Deduct	-51.93	
		For Flat Frame, Deduct	-5.19	
		For Grilles (No Damper), Deduct	-103.86	
		For Stainless Steel, Add	1,298.28	
23 37 13 13-0108	EA	30" x 24" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	775.71	37.85
		For Steel Construction, Deduct	-62.36	
		For Flat Frame, Deduct	-6.24	
		For Grilles (No Damper), Deduct	-124.73	
		For Stainless Steel, Add	1,559.10	
23 37 13 13-0109	EA	30" x 30" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	892.78	37.85
		For Steel Construction, Deduct	-74.07	
		For Flat Frame, Deduct	-7.41	
		For Grilles (No Damper), Deduct	-148.14	
		For Stainless Steel, Add	1,851.78	
23 37 13 13-0110	EA	36" x 12" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	597.29	40.21
		For Steel Construction, Deduct	-43.35	
		For Flat Frame, Deduct	-4.34	
		For Grilles (No Damper), Deduct	-86.71	
		For Stainless Steel, Add	1,083.83	
23 37 13 13-0111	EA	36" x 18" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	819.85	40.21
		For Steel Construction, Deduct	-65.61	
		For Flat Frame, Deduct	-6.56	
		For Grilles (No Damper), Deduct	-131.22	
		For Stainless Steel, Add	1,640.23	
23 37 13 13-0112	EA	36" x 24" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	951.73	44.94
		For Steel Construction, Deduct	-77.43	
		For Flat Frame, Deduct	-7.74	
		For Grilles (No Damper), Deduct	-154.87	
		For Stainless Steel, Add	1,935.83	
23 37 13 13-0113	EA	36" x 30" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	1,115.09	48.49
		For Steel Construction, Deduct	-92.16	
		For Flat Frame, Deduct	-9.22	
		For Grilles (No Damper), Deduct	-184.31	
		For Stainless Steel, Add	2,303.88	
23 37 13 13-0114	EA	36" x 36" Double Deflection Return/Exhaust Register, Aluminum, Opposed Blade Damper, Wall/Ceiling	1,180.00	48.49
		For Steel Construction, Deduct	-98.65	
		For Flat Frame, Deduct	-9.86	
		For Grilles (No Damper), Deduct	-197.29	
		For Stainless Steel, Add	2,466.15	

23 37 13 13-0115 Aluminum Eggcrate Ceiling Return Air And Exhaust Grilles (23 37 13 13-0068)

23 37 13 13-0116	EA	6" x 6" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	58.15	11.57
23 37 13 13-0117	EA	8" x 4" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	58.15	11.57
23 37 13 13-0118	EA	8" x 6" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	63.43	11.57



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Distribution			23 30
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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0119	EA		8" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	65.54	11.57
23 37 13 13-0120	EA		10" x 4" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	63.43	11.57
23 37 13 13-0121	EA		10" x 6" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	65.54	11.57
23 37 13 13-0122	EA		10" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	78.56	15.17
23 37 13 13-0123	EA		10" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	80.67	15.17
23 37 13 13-0124	EA		12" x 6" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	76.45	15.17
23 37 13 13-0125	EA		12" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	80.67	15.17
23 37 13 13-0126	EA		12" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	82.78	15.17
23 37 13 13-0127	EA		12" x 12" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	84.89	15.17
23 37 13 13-0128	EA		14" x 6" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	81.73	15.17
23 37 13 13-0129	EA		14" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	85.95	15.17
23 37 13 13-0130	EA		14" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	88.06	15.17
23 37 13 13-0131	EA		14" x 14" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	97.56	15.17
23 37 13 13-0132	EA		16" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	85.95	15.17
23 37 13 13-0133	EA		16" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	93.34	15.17
23 37 13 13-0134	EA		16" x 12" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	97.56	15.17
23 37 13 13-0135	EA		16" x 14" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	124.67	22.37
23 37 13 13-0136	EA		16" x 16" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	126.78	22.37
23 37 13 13-0137	EA		18" x 12" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	122.56	22.37
23 37 13 13-0138	EA		18" x 18" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	150.36	25.97
23 37 13 13-0139	EA		20" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	120.45	22.37
23 37 13 13-0140	EA		20" x 20" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	160.92	25.97
23 37 13 13-0141	EA		22" x 4" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	83.84	15.17
23 37 13 13-0142	EA		22" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	122.56	22.37
23 37 13 13-0143	EA		22" x 22" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	180.27	29.58
23 37 13 13-0144	EA		24" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	120.45	22.37
23 37 13 13-0145	EA		24" x 10" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	124.67	22.37
23 37 13 13-0146	EA		24" x 12" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	144.03	25.97
			For Lay-In Installation, Deduct	-54.88	
23 37 13 13-0147	EA		24" x 14" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	150.36	25.97
23 37 13 13-0148	EA		24" x 16" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	167.61	29.58
23 37 13 13-0149	EA		24" x 18" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	173.94	29.58
23 37 13 13-0150	EA		24" x 20" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	181.33	29.58
23 37 13 13-0151	EA		24" x 24" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	195.05	29.58
			For Lay-In Installation, Deduct	-62.83	
23 37 13 13-0152	EA		30" x 8" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	147.20	25.97
23 37 13 13-0153	EA		48" x 12" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	240.72	32.42
23 37 13 13-0154	EA		48" x 24" Aluminum Eggcrate Ceiling Return Air And Exhaust Grille.....	415.59	39.62
			For Lay-In Installation, Deduct	-90.40	
23 37 13 13-0155			Supply Registers and Grilles (23 37 13 13)		
23 37 13 13-0156			Adjustable Curved Blade Register (23 37 13 13-0155)		
			Note: Ceiling mount aluminum construction four way pattern flush frame.		
23 37 13 13-0157	EA		6" x 6" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	104.20	9.47
			For Steel Construction, Deduct	-10.13	
			For Lay In Frame, Deduct	-16.89	
			For Three Way Pattern, Deduct	-6.76	
			For Two Way Pattern, Deduct	-5.40	
			For One Way Pattern, Deduct	-5.40	
			For Grille (No Damper), Deduct	-10.13	
			For Stainless Steel, Add	168.90	
23 37 13 13-0158	EA		8" x 8" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	108.18	9.47
			For Steel Construction, Deduct	-10.13	
			For Lay In Frame, Deduct	-17.89	
			For Three Way Pattern, Deduct	-7.15	
			For Two Way Pattern, Deduct	-5.72	
			For One Way Pattern, Deduct	-5.72	
			For Grille (No Damper), Deduct	-10.73	
			For Stainless Steel, Add	178.85	
23 37 13 13-0159	EA		12" x 6" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	117.19	13.01
			For Steel Construction, Deduct	-10.13	
			For Lay In Frame, Deduct	-16.89	
			For Three Way Pattern, Deduct	-6.76	
			For Two Way Pattern, Deduct	-5.40	
			For One Way Pattern, Deduct	-5.40	
			For Grille (No Damper), Deduct	-10.13	
			For Stainless Steel, Add	168.90	
23 37 13 13-0160	EA		10" x 10" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	131.77	11.82
			For Steel Construction, Deduct	-12.32	
			For Lay In Frame, Deduct	-20.54	
			For Three Way Pattern, Deduct	-8.21	
			For Two Way Pattern, Deduct	-6.57	
			For One Way Pattern, Deduct	-6.57	
			For Grille (No Damper), Deduct	-12.32	
			For Stainless Steel, Add	205.35	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0161	EA	12" x 12" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	158.34	15.38
		For Steel Construction, Deduct	-14.70	
		For Lay In Frame, Deduct	-24.51	
		For Three Way Pattern, Deduct	-9.80	
		For Two Way Pattern, Deduct	-7.84	
		For One Way Pattern, Deduct	-7.84	
		For Grille (No Damper), Deduct	-14.70	
		For Stainless Steel, Add	245.08	
23 37 13 13-0162	EA	14" x 14" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	195.29	17.74
		For Steel Construction, Deduct	-18.28	
		For Lay In Frame, Deduct	-30.47	
		For Three Way Pattern, Deduct	-12.19	
		For Two Way Pattern, Deduct	-9.75	
		For One Way Pattern, Deduct	-9.75	
		For Grille (No Damper), Deduct	-18.28	
		For Stainless Steel, Add	304.70	
23 37 13 13-0163	EA	16" x 16" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	195.29	17.74
		For Steel Construction, Deduct	-18.28	
		For Lay In Frame, Deduct	-30.47	
		For Three Way Pattern, Deduct	-12.19	
		For Two Way Pattern, Deduct	-9.75	
		For One Way Pattern, Deduct	-9.75	
		For Grille (No Damper), Deduct	-18.28	
		For Stainless Steel, Add	304.70	
23 37 13 13-0164	EA	18" x 18" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	240.54	23.66
		For Steel Construction, Deduct	-22.26	
		For Lay In Frame, Deduct	-37.10	
		For Three Way Pattern, Deduct	-14.84	
		For Two Way Pattern, Deduct	-11.87	
		For One Way Pattern, Deduct	-11.87	
		For Grille (No Damper), Deduct	-22.26	
		For Stainless Steel, Add	370.95	
23 37 13 13-0165	EA	24" x 24" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	320.66	24.83
		For Steel Construction, Deduct	-33.58	
		For Lay In Frame, Deduct	-55.97	
		For Three Way Pattern, Deduct	-22.39	
		For Two Way Pattern, Deduct	-17.91	
		For One Way Pattern, Deduct	-17.91	
		For Grille (No Damper), Deduct	-33.58	
		For Stainless Steel, Add	559.73	
23 37 13 13-0166	EA	30" x 30" Adjustable Curved Blade Register, Ceiling Mounted, Aluminum Construction, 4-Way Pattern	530.19	50.15
		For Steel Construction, Deduct	-64.48	
		For Lay In Frame, Deduct	-107.47	
		For Three Way Pattern, Deduct	-42.99	
		For Two Way Pattern, Deduct	-34.39	
		For One Way Pattern, Deduct	-34.39	
		For Grille (No Damper), Deduct	-64.48	
		For Stainless Steel, Add	1,074.73	
23 37 13 13-0167		Removable-Reversible Core Registers (23 37 13 13-0155)		
		Note: Double deflection radiused frame aluminum construction.		
23 37 13 13-0168	EA	6" x 6" Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	121.43	9.47
		For Steel Construction, Deduct	-8.48	
		For Flat Frame, Deduct	-8.48	
		For Grille (No Damper), Deduct	-25.44	
		For Stainless Steel, Add	211.98	
23 37 13 13-0169	EA	8" x 8" Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	155.87	9.47
		For Steel Construction, Deduct	-11.92	
		For Flat Frame, Deduct	-11.92	
		For Grille (No Damper), Deduct	-35.77	
		For Stainless Steel, Add	298.08	
23 37 13 13-0170	EA	12" x 6" Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	198.01	13.01
		For Steel Construction, Deduct	-14.84	
		For Flat Frame, Deduct	-14.84	
		For Grille (No Damper), Deduct	-44.51	
		For Stainless Steel, Add	370.95	
23 37 13 13-0171	EA	10" x 10" Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	200.65	13.01
		For Steel Construction, Deduct	-15.10	
		For Flat Frame, Deduct	-15.10	
		For Grille (No Damper), Deduct	-45.31	
		For Stainless Steel, Add	377.55	
23 37 13 13-0172	EA	12" x 12" Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	256.38	15.38
		For Steel Construction, Deduct	-19.61	
		For Flat Frame, Deduct	-19.61	
		For Grille (No Damper), Deduct	-58.82	
		For Stainless Steel, Add	490.18	
23 37 13 13-0173	EA	14" x 14" Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	367.51	18.92
		For Steel Construction, Deduct	-29.41	
		For Flat Frame, Deduct	-29.41	
		For Grille (No Damper), Deduct	-88.23	
		For Stainless Steel, Add	735.25	
23 37 13 13-0174	EA	16" x 16" Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	415.20	17.74
		For Steel Construction, Deduct	-34.18	
		For Flat Frame, Deduct	-34.18	
		For Grille (No Damper), Deduct	-102.54	
		For Stainless Steel, Add	854.48	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0175	EA		18" x 18" Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	500.19	23.66
			For Steel Construction, Deduct	-40.80	
			For Flat Frame, Deduct	-40.80	
			For Grille (No Damper), Deduct	-122.41	
			For Stainless Steel, Add	1,020.08	
23 37 13 13-0176	EA		24" x 24" Removable/Reversible Core Register, Double Deflection, Radiused Aluminum Frame	634.63	23.66
			For Steel Construction, Deduct	-53.79	
			For Flat Frame, Deduct	-53.79	
			For Grille (No Damper), Deduct	-161.36	
			For Stainless Steel, Add	1,344.65	
23 37 13 13-0177 Supply Grille, Aluminum Drum With Aluminum Border (23 37 13 13-0155)					
Note: Titus DL.					
23 37 13 13-0178	EA		9" x 6" Supply Grille, Aluminum Drum	88.91	18.33
			For Stainless Steel, Add	130.68	
23 37 13 13-0179	EA		12" x 6" Supply Grille, Aluminum Drum	124.58	24.83
			For Stainless Steel, Add	167.40	
23 37 13 13-0180	EA		18" x 6" Supply Grille, Aluminum Drum	137.31	24.83
			For Stainless Steel, Add	219.23	
23 37 13 13-0181	EA		24" x 6" Supply Grille, Aluminum Drum	152.48	30.16
			For Stainless Steel, Add	230.45	
23 37 13 13-0182	EA		30" x 6" Supply Grille, Aluminum Drum	194.60	36.78
			For Stainless Steel, Add	302.98	
23 37 13 13-0183	EA		36" x 6" Supply Grille, Aluminum Drum	236.28	36.78
			For Stainless Steel, Add	407.18	
23 37 13 13-0184	EA		48" x 6" Supply Grille, Aluminum Drum	282.36	46.12
			For Stainless Steel, Add	475.53	
23 37 13 13-0185	EA		20" x 10" Supply Grille, Aluminum Drum	158.62	30.16
			For Stainless Steel, Add	245.80	
23 37 13 13-0186	EA		25" x 10" Supply Grille, Aluminum Drum	171.62	36.67
			For Stainless Steel, Add	245.80	
23 37 13 13-0187	EA		30" x 10" Supply Grille, Aluminum Drum	242.07	46.12
			For Stainless Steel, Add	374.60	
23 37 13 13-0188	EA		35" x 10" Supply Grille, Aluminum Drum	279.64	49.68
			For Stainless Steel, Add	450.80	
23 37 13 13-0189	EA		40" x 10" Supply Grille, Aluminum Drum	314.35	52.03
			For Stainless Steel, Add	525.75	
23 37 13 13-0190	EA		20" x 12" Supply Grille, Aluminum Drum	180.83	32.53
			For Stainless Steel, Add	289.50	
23 37 13 13-0191	EA		30" x 12" Supply Grille, Aluminum Drum	265.55	47.31
			For Stainless Steel, Add	427.40	
23 37 13 13-0192	EA		40" x 12" Supply Grille, Aluminum Drum	343.74	53.22
			For Stainless Steel, Add	593.30	
23 37 13 13-0193	EA		15" x 15" Supply Grille, Aluminum Drum	190.49	36.67
			For Stainless Steel, Add	292.98	
23 37 13 13-0194	EA		20" x 15" Supply Grille, Aluminum Drum	214.40	39.03
			For Stainless Steel, Add	340.90	
23 37 13 13-0195	EA		25" x 15" Supply Grille, Aluminum Drum	251.90	45.54
			For Stainless Steel, Add	402.13	
23 37 13 13-0196	EA		30" x 15" Supply Grille, Aluminum Drum	285.50	48.49
			For Stainless Steel, Add	471.35	
23 37 13 13-0197	EA		40" x 15" Supply Grille, Aluminum Drum	346.97	54.40
			For Stainless Steel, Add	595.48	
23 37 13 13-0198 Adjustable Shutter Blade Registers (23 37 13 13-0155)					
Note: Double deflection flat frame aluminum construction.					
23 37 13 13-0199	EA		6" x 6" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame	191.20	9.47
			For Steel Construction, Deduct	-15.46	
			For Single Deflection, Deduct	-30.91	
			For Grille (No Damper), Deduct	-23.18	
			For Stainless Steel, Add	386.40	
23 37 13 13-0200	EA		8" x 8" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame	222.11	9.47
			For Steel Construction, Deduct	-18.55	
			For Single Deflection, Deduct	-37.09	
			For Grille (No Damper), Deduct	-27.82	
			For Stainless Steel, Add	463.68	
23 37 13 13-0201	EA		12" x 6" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame	235.10	13.01
			For Steel Construction, Deduct	-18.55	
			For Single Deflection, Deduct	-37.09	
			For Grille (No Damper), Deduct	-27.82	
			For Stainless Steel, Add	463.68	
23 37 13 13-0202	EA		10" x 10" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame	243.93	11.82
			For Steel Construction, Deduct	-19.43	
			For Single Deflection, Deduct	-38.86	
			For Grille (No Damper), Deduct	-29.15	
			For Stainless Steel, Add	485.75	
23 37 13 13-0203	EA		12" x 12" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame	298.77	15.38
			For Steel Construction, Deduct	-23.85	
			For Single Deflection, Deduct	-47.69	
			For Grille (No Damper), Deduct	-35.77	
			For Stainless Steel, Add	596.15	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0204 EA 14" x 14" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame.....	400.19	17.74
For Steel Construction, Deduct	-32.68	
For Single Deflection, Deduct	-65.36	
For Grille (No Damper), Deduct	-49.02	
For Stainless Steel, Add	816.95	
23 37 13 13-0205 EA 16" x 16" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame.....	475.26	18.92
For Steel Construction, Deduct	-40.19	
For Single Deflection, Deduct	-80.37	
For Grille (No Damper), Deduct	-60.28	
For Stainless Steel, Add	1,004.63	
23 37 13 13-0206 EA 18" x 18" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame.....	586.74	23.66
For Steel Construction, Deduct	-49.46	
For Single Deflection, Deduct	-98.92	
For Grille (No Damper), Deduct	-74.19	
For Stainless Steel, Add	1,236.45	
23 37 13 13-0207 EA 24" x 24" Adjustable Shutter Blade Register, Double Deflection, Flat Aluminum Frame.....	816.56	24.83
For Steel Construction, Deduct	-71.98	
For Single Deflection, Deduct	-143.96	
For Grille (No Damper), Deduct	-107.97	
For Stainless Steel, Add	1,799.48	
23 37 13 13-0208 Air Conditioning And Ventilation (23 37 13 13-0155)		
23 37 13 13-0209 EA 10" x 16" Egg Crate Wall Return Air Or Exhaust Grille, Aluminum Construction	100.42	24.83
For Stainless Steel, Add	126.98	
23 37 13 13-0210 EA 18" x 12" Egg Crate Wall Return Air Or Exhaust Grille, Aluminum Construction	175.50	36.96
For Stainless Steel, Add	253.95	
23 37 13 13-0211 EA 30" x 12" Egg Crate Wall Return Air Or Exhaust Grille, Aluminum Construction	272.79	51.74
For Stainless Steel, Add	423.28	
23 37 13 13-0212 EA 48" x 24" Egg Crate Wall Return Air Or Exhaust Grille, Aluminum Construction	700.63	70.97
For Stainless Steel, Add	1,396.78	
23 37 13 13-0213 Square Wall Return Air And Exhaust Grilles (23 37 13 13-0155)		
Note: Egg crate design aluminum construction.		
23 37 13 13-0214 EA 8" x 8" Egg Crate Wall Return Air Or Exhaust Grille, Aluminum Construction	89.77	29.63
23 37 13 13-0215 EA 12" x 12" Egg Crate Wall Return Air Or Exhaust Grille, Aluminum Construction	99.17	29.63
23 37 13 13-0216 EA 18" x 18" Egg Crate Wall Return Air Or Exhaust Grille, Aluminum Construction	147.57	44.44
23 37 13 13-0217 EA 24" x 24" Egg Crate Wall Return Air Or Exhaust Grille, Aluminum Construction	194.53	44.44
23 37 13 13-0218 EA 28" x 28" Egg Crate Wall Return Air Or Exhaust Grille, Aluminum Construction	329.83	59.25
23 37 13 13-0219 EA 36" x 36" Egg Crate Wall Return Air Or Exhaust Grille, Aluminum Construction	613.49	59.13
23 37 13 13-0220 Rectangular Four-Way Adjustable Deflection Wall Supply Grilles (23 37 13 13-0155)		
Note: Aluminum construction.		
23 37 13 13-0221 EA 12" x 6" 4-Way Adjustable Wall Supply Grille, Adjustable Deflection, Aluminum Construction	268.92	21.33
23 37 13 13-0222 EA 14" x 6" 4-Way Adjustable Wall Supply Grille, Adjustable Deflection, Aluminum Construction	308.66	21.33
23 37 13 13-0223 EA 18" x 8" 4-Way Adjustable Wall Supply Grille, Adjustable Deflection, Aluminum Construction	373.00	23.70
23 37 13 13-0224 EA 24" x 8" 4-Way Adjustable Wall Supply Grille, Adjustable Deflection, Aluminum Construction	443.63	23.70
23 37 13 13-0225 EA 36" x 20" 4-Way Adjustable Wall Supply Grille, Adjustable Deflection, Aluminum Construction	566.03	74.07
23 37 13 13-0226 EA 6" x 6" 2, 3, 4-Way Adjustable Wall Supply Grille, Adjustable, Titus Mode 250	103.55	35.55
23 37 13 13-0227 EA 8" x 8" 2, 3, 4-Way Adjustable Wall Supply Grille, Adjustable, Titus Mode 250	109.46	38.52
23 37 13 13-0228 EA 10" x 10" 2, 3, 4-Way Adjustable Wall Supply Grille, Adjustable, Titus Mode 250	126.98	41.48
23 37 13 13-0229 EA 12" x 12" 2, 3, 4-Way Adjustable Wall Supply Grille, Adjustable, Titus Mode 250	136.40	44.44
23 37 13 13-0230 EA 14" x 14" 2, 3, 4-Way Adjustable Wall Supply Grille, Adjustable, Titus Mode 250	151.59	47.40
23 37 13 13-0231 Square Ceiling Return Air And Exhaust Grilles (23 37 13 13-0155)		
Note: Egg crate design, plastic construction.		
23 37 13 13-0232 EA 24" x 24" Egg Crate Ceiling Return Air Or Exhaust Grille, Plastic Construction	50.27	14.18
23 37 13 13-0233 EA 24" x 48" Egg Crate Ceiling Return Air Or Exhaust Grille, Plastic Construction	73.49	14.30
23 37 13 13-0234 Door Grilles Sight Proof Inverted Vee Cross Section (23 37 13 13-0155)		
Note: Painted steel louvers and frame.		
23 37 13 13-0235 EA 12" x 6" Sight Proof Door Grilles, Inverted Vee Cross Section, Painted Steel	149.38	21.33
23 37 13 13-0236 EA 12" x 12" Sight Proof Door Grilles, Inverted Vee Cross Section, Painted Steel	185.02	21.33
23 37 13 13-0237 EA 18" x 18" Sight Proof Door Grilles, Inverted Vee Cross Section, Painted Steel	233.59	22.51
23 37 13 13-0238 EA 24" x 24" Sight Proof Door Grilles, Inverted Vee Cross Section, Painted Steel	326.33	26.90
23 37 13 13-0239 EA 24" x 30" Sight Proof Door Grilles, Inverted Vee Cross Section, Painted Steel	361.43	49.41
23 37 13 13-0240 Stainless Steel Devices (23 37 13 13-0155)		
23 37 13 13-0241 304 Stainless Steel, Louvered Partition/Door Grilles (23 37 13 13-0240)		
23 37 13 13-0242 SF Up To 4 SF, 304 Stainless Steel, Louvered Partition/Door Grille	239.49	18.48
For 316 Stainless Steel, Add	41.74	
23 37 13 13-0243 SF >4 SF, 304 Stainless Steel, Louvered Partition/Door Grille	201.41	18.48
For 316 Stainless Steel, Add	34.12	
23 37 13 13-0244 304 Stainless Steel, Single Deflection Supply Grilles (23 37 13 13-0240)		



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Outlets and Inlets			23 37	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0245	SF		Up To 4 SF, 304 Stainless Steel, Single Deflection Supply Grille.....	180.31	18.48
			For 316 Stainless Steel, Add	29.90	
23 37 13 13-0246	SF		>4 SF, 304 Stainless Steel, Single Deflection Supply Grille.....	152.62	18.48
			For 316 Stainless Steel, Add	24.36	
23 37 13 13-0247			304 Stainless Steel, Double Deflection Supply Grilles (23 37 13 13-0240)		
23 37 13 13-0248	SF		Up To 4 SF, 304 Stainless Steel, Double Deflection Supply Grille.....	265.96	18.48
			For 316 Stainless Steel, Add	47.03	
23 37 13 13-0249	SF		>4 SF, 304 Stainless Steel, Double Deflection Supply Grille.....	225.99	18.48
			For 316 Stainless Steel, Add	39.04	
23 37 13 13-0250			304 Stainless Steel Return Grilles (23 37 13 13-0240)		
23 37 13 13-0251	SF		Up To 4 SF, 304 Stainless Steel Return Grille.....	180.31	18.48
			For 316 Stainless Steel, Add	29.90	
23 37 13 13-0252	SF		>4 SF, 304 Stainless Steel Return Grille.....	152.62	18.48
			For 316 Stainless Steel, Add	24.36	
23 37 13 13-0253			304 Stainless Steel, Louvered Supply/Return Grilles (23 37 13 13-0240)		
23 37 13 13-0254	SF		Up To 4 SF, 304 Stainless Steel, Louvered Supply/Return Grille.....	180.31	18.48
			For 316 Stainless Steel, Add	29.90	
23 37 13 13-0255	SF		>4 SF, 304 Stainless Steel, Louvered Supply/Return Grille.....	152.62	18.48
			For 316 Stainless Steel, Add	24.36	
23 37 13 13-0256			304 Stainless Steel, Perforated Return Grilles (23 37 13 13-0240)		
23 37 13 13-0257	SF		Up To 4 SF, 304 Stainless Steel, Perforated Return Grille.....	180.31	18.48
			For 316 Stainless Steel, Add	29.90	
23 37 13 13-0258	SF		>4 SF, 304 Stainless Steel, Perforated Return Grille.....	145.01	18.48
			For 316 Stainless Steel, Add	22.84	
23 37 13 13-0259			304 Stainless Steel, Perforated Supply Grilles (23 37 13 13-0240)		
23 37 13 13-0260	SF		Up To 4 SF, 304 Stainless Steel, Perforated Supply Grille.....	219.24	18.48
			For 316 Stainless Steel, Add	37.69	
23 37 13 13-0261	SF		>4 SF, 304 Stainless Steel, Perforated Supply Grille.....	149.06	18.48
			For 316 Stainless Steel, Add	23.65	
23 37 13 13-0262			304 Stainless Steel, Door Grilles (23 37 13 13-0240)		
23 37 13 13-0263	SF		Up To 4 SF, 304 Stainless Steel, Door Grille.....	329.81	18.48
			For 316 Stainless Steel, Add	59.80	
23 37 13 13-0264	SF		>4 SF, 304 Stainless Steel, Door Grille.....	274.45	18.48
			For 316 Stainless Steel, Add	48.73	
23 37 13 13-0265			304 Stainless Steel, Linear Bar Grilles (23 37 13 13-0240)		
23 37 13 13-0266	SF		Up To 4 SF, 304 Stainless Steel, Linear Bar Grille.....	422.73	18.48
			For 316 Stainless Steel, Add	78.38	
23 37 13 13-0267	SF		>4 SF, 304 Stainless Steel, Linear Bar Grille.....	361.30	18.48
			For 316 Stainless Steel, Add	66.10	
23 37 13 13-0268			304 Stainless Steel, Hinged Filter Grilles (23 37 13 13-0240)		
23 37 13 13-0269	SF		Up To 4 SF, 304 Stainless Steel, Hinged Filter Grille.....	309.57	18.48
			For 316 Stainless Steel, Add	55.75	
23 37 13 13-0270	SF		>4 SF, 304 Stainless Steel, Hinged Filter Grille.....	212.68	18.48
			For 316 Stainless Steel, Add	36.37	
23 37 13 13-0271			304 Stainless Steel, Opposed Blade Dampers Grilles (23 37 13 13-0240)		
23 37 13 13-0272	SF		Up To 4 SF, 304 Stainless Steel, Opposed Blade Dampers Grille.....	164.74	18.48
			For 316 Stainless Steel, Add	26.79	
23 37 13 13-0273	SF		Opposed Blade Dampers Grille, Stainless Steel 304, > 4 SF.....	124.43	18.48
			For 316 Stainless Steel, Add	18.72	
23 37 13 13-0274			304 Stainless Steel, Plaster Frames Replacement (23 37 13 13-0240)		
			Note: For frequent replacement.		
23 37 13 13-0275	SF		To 4 SF, 304 Stainless Steel, Plaster Frames Replacement.....	127.36	18.48
			For 316 Stainless Steel, Add	19.31	
23 37 13 13-0276	SF		>4 SF, 304 Stainless Steel, Plaster Frames Replacement.....	65.59	18.48
			For 316 Stainless Steel, Add	6.96	
23 37 13 13-0277			304 Stainless Steel, Modular Louvered Ceiling Diffusers (23 37 13 13-0240)		
23 37 13 13-0278	SF		Up To 4 SF, 304 Stainless Steel, Modular Louvered Ceiling Diffuser.....	304.90	18.48
			For 316 Stainless Steel, Add	54.82	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 13-0279 SF >4 SF, 304 Stainless Steel, Modular Louvered Ceiling Diffuser For 316 Stainless Steel, Add	237.59 41.36	18.48
23 37 13 13-0280 304 Stainless Steel, Latticed Supply/Return Grilles (23 37 13 13-0240)		
23 37 13 13-0281 SF Up To 4 SF, 304 Stainless Steel, Latticed Supply/Return Grille For 316 Stainless Steel, Add	104.00 14.64	18.48
23 37 13 13-0282 SF >4 SF, 304 Stainless Steel, Latticed Supply/Return Grille For 316 Stainless Steel, Add	104.00 14.64	18.48
23 37 13 13-0283 Removal And Reinstallation Of Distribution Devices (23 37 13 13)		
Note: Includes storage and cleaning. Excludes ductwork.		
23 37 13 13-0284 EA Removal And Reinstallation Of Variable Air Volume Terminal Unit	221.75	
23 37 13 13-0285 EA Removal And Reinstallation Of Fan Powered Variable Volume Terminal Unit	244.58	
23 37 13 13-0286 EA Removal And Reinstallation Of Lay-in Diffuser/Register/Grille	36.66	
23 37 13 13-0287 EA Removal And Reinstallation Of Surface Mounted Diffuser/Register/Grille	49.65	
23 37 13 43 Security Registers and Grilles (23 37 13)		
23 37 13 43-0001 Security Supply Or Return Grille (23 37 13 43)		
Note: Designed for maximum security applications, 3/16" steel face plate with 2" x 2" square holes, 1/4" steel backer plate, 3/16" welded steel sleeve, 10 gauge x 2 wire mesh between face and backer plates, 1" x 1" x 3/16" angle iron frame, standard finish.		
23 37 13 43-0002 EA 8" x 4" Steel Security Grille For Anchoring Tabs, Add For Rear Operated Opposed Blade Damper, Add For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add For 1" x 1" Square Holes On Face, Add For Stainless Steel, Add	305.32 26.98 97.97 0.35 67.44 350.70	17.78
23 37 13 43-0003 EA 8" x 6" Steel Security Grille For Anchoring Tabs, Add For Rear Operated Opposed Blade Damper, Add For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add For 1" x 1" Square Holes On Face, Add For Stainless Steel, Add	339.21 30.25 109.54 0.35 75.62 393.21	18.36
23 37 13 43-0004 EA 8" x 8" Steel Security Grille For Anchoring Tabs, Add For Rear Operated Opposed Blade Damper, Add For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add For 1" x 1" Square Holes On Face, Add For Stainless Steel, Add	388.91 34.74 125.75 0.35 86.86 451.66	20.74
23 37 13 43-0005 EA 10" x 4" Steel Security Grille For Anchoring Tabs, Add For Rear Operated Opposed Blade Damper, Add For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add For 1" x 1" Square Holes On Face, Add For Stainless Steel, Add	338.67 29.84 108.46 0.35 74.60 387.89	20.14
23 37 13 43-0006 EA 10" x 6" Steel Security Grille For Anchoring Tabs, Add For Rear Operated Opposed Blade Damper, Add For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add For 1" x 1" Square Holes On Face, Add For Stainless Steel, Add	361.48 31.88 115.85 0.35 79.71 414.47	21.33
23 37 13 43-0007 EA 10" x 8" Steel Security Grille For Anchoring Tabs, Add For Rear Operated Opposed Blade Damper, Add For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add For 1" x 1" Square Holes On Face, Add For Stainless Steel, Add	414.09 36.79 133.38 0.35 91.97 478.23	23.10
23 37 13 43-0008 EA 10" x 10" Steel Security Grille For Anchoring Tabs, Add For Rear Operated Opposed Blade Damper, Add For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add For 1" x 1" Square Holes On Face, Add For Stainless Steel, Add	462.60 41.28 149.47 0.35 103.21 536.68	24.89
23 37 13 43-0009 EA 12" x 4" Steel Security Grille For Anchoring Tabs, Add For Rear Operated Opposed Blade Damper, Add For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add For 1" x 1" Square Holes On Face, Add For Stainless Steel, Add	355.67 31.06 113.23 0.35 77.66 403.83	22.51
23 37 13 43-0010 EA 12" x 6" Steel Security Grille For Anchoring Tabs, Add For Rear Operated Opposed Blade Damper, Add For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add For 1" x 1" Square Holes On Face, Add For Stainless Steel, Add	397.20 34.74 126.58 0.35 86.86 451.66	24.89
23 37 13 43-0011 EA 12" x 8" Steel Security Grille For Anchoring Tabs, Add For Rear Operated Opposed Blade Damper, Add For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add For 1" x 1" Square Holes On Face, Add For Stainless Steel, Add	453.90 40.06 145.53 0.35 100.14 520.74	26.66



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Outlets and Inlets			23 37	

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
23 37 13 43-0012	EA	12" x 10" Steel Security Grille	494.24	28.44
		For Anchoring Tabs, Add	43.74	
		For Rear Operated Opposed Blade Damper, Add	158.76	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	109.34	
		For Stainless Steel, Add	568.57	
23 37 13 43-0013	EA	12" x 12" Steel Security Grille	546.83	30.22
		For Anchoring Tabs, Add	48.64	
		For Rear Operated Opposed Blade Damper, Add	176.28	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	121.60	
		For Stainless Steel, Add	632.32	
23 37 13 43-0014	EA	14" x 4" Steel Security Grille	379.66	24.29
		For Anchoring Tabs, Add	33.11	
		For Rear Operated Opposed Blade Damper, Add	120.74	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	82.77	
		For Stainless Steel, Add	430.40	
23 37 13 43-0015	EA	14" x 6" Steel Security Grille	428.18	26.07
		For Anchoring Tabs, Add	37.60	
		For Rear Operated Opposed Blade Damper, Add	136.63	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	94.01	
		For Stainless Steel, Add	488.85	
23 37 13 43-0016	EA	14" x 8" Steel Security Grille	477.89	28.44
		For Anchoring Tabs, Add	42.10	
		For Rear Operated Opposed Blade Damper, Add	153.04	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	105.25	
		For Stainless Steel, Add	547.31	
23 37 13 43-0017	EA	14" x 10" Steel Security Grille	539.84	30.81
		For Anchoring Tabs, Add	47.82	
		For Rear Operated Opposed Blade Damper, Add	173.54	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	119.56	
		For Stainless Steel, Add	621.70	
23 37 13 43-0018	EA	14" x 12" Steel Security Grille	594.82	33.78
		For Anchoring Tabs, Add	52.73	
		For Rear Operated Opposed Blade Damper, Add	191.30	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	131.82	
		For Stainless Steel, Add	685.46	
23 37 13 43-0019	EA	14" x 14" Steel Security Grille	640.43	36.14
		For Anchoring Tabs, Add	56.82	
		For Rear Operated Opposed Blade Damper, Add	206.08	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	142.04	
		For Stainless Steel, Add	738.60	
23 37 13 43-0020	EA	16" x 6" Steel Security Grille	457.45	28.44
		For Anchoring Tabs, Add	40.06	
		For Rear Operated Opposed Blade Damper, Add	145.89	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	100.14	
		For Stainless Steel, Add	520.74	
23 37 13 43-0021	EA	16" x 8" Steel Security Grille	523.49	30.81
		For Anchoring Tabs, Add	46.19	
		For Rear Operated Opposed Blade Damper, Add	167.82	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	115.47	
		For Stainless Steel, Add	600.44	
23 37 13 43-0022	EA	16" x 10" Steel Security Grille	565.02	33.18
		For Anchoring Tabs, Add	49.87	
		For Rear Operated Opposed Blade Damper, Add	181.17	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	124.67	
		For Stainless Steel, Add	648.27	
23 37 13 43-0023	EA	16" x 12" Steel Security Grille	638.06	34.95
		For Anchoring Tabs, Add	56.82	
		For Rear Operated Opposed Blade Damper, Add	205.64	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	142.04	
		For Stainless Steel, Add	738.60	
23 37 13 43-0024	EA	16" x 14" Steel Security Grille	675.50	37.33
		For Anchoring Tabs, Add	60.09	
		For Rear Operated Opposed Blade Damper, Add	217.76	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	150.21	
		For Stainless Steel, Add	781.11	
23 37 13 43-0025	EA	16" x 16" Steel Security Grille	733.38	39.70
		For Anchoring Tabs, Add	65.40	
		For Rear Operated Opposed Blade Damper, Add	236.84	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	163.50	
		For Stainless Steel, Add	850.19	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 43-0026	EA	18" x 6" Steel Security Grille	485.00	31.99
		For Anchoring Tabs, Add	42.10	
		For Rear Operated Opposed Blade Damper, Add	153.75	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	105.25	
		For Stainless Steel, Add	547.31	
23 37 13 43-0027	EA	18" x 8" Steel Security Grille	555.13	34.37
		For Anchoring Tabs, Add	48.64	
		For Rear Operated Opposed Blade Damper, Add	177.11	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	121.60	
		For Stainless Steel, Add	632.32	
23 37 13 43-0028	EA	18" x 10" Steel Security Grille	608.92	36.74
		For Anchoring Tabs, Add	53.55	
		For Rear Operated Opposed Blade Damper, Add	194.75	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	133.86	
		For Stainless Steel, Add	696.09	
23 37 13 43-0029	EA	18" x 12" Steel Security Grille	670.89	39.10
		For Anchoring Tabs, Add	59.27	
		For Rear Operated Opposed Blade Damper, Add	215.26	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	148.17	
		For Stainless Steel, Add	770.48	
23 37 13 43-0030	EA	18" x 14" Steel Security Grille	718.75	38.52
		For Anchoring Tabs, Add	64.17	
		For Rear Operated Opposed Blade Damper, Add	232.31	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	160.43	
		For Stainless Steel, Add	834.25	
23 37 13 43-0031	EA	18" x 16" Steel Security Grille	787.71	40.29
		For Anchoring Tabs, Add	70.71	
		For Rear Operated Opposed Blade Damper, Add	255.55	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	176.78	
		For Stainless Steel, Add	919.27	
23 37 13 43-0032	EA	18" x 18" Steel Security Grille	844.39	42.07
		For Anchoring Tabs, Add	76.03	
		For Rear Operated Opposed Blade Damper, Add	274.50	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	190.07	
		For Stainless Steel, Add	988.34	
23 37 13 43-0033	EA	20" x 6" Steel Security Grille	519.54	34.95
		For Anchoring Tabs, Add	44.96	
		For Rear Operated Opposed Blade Damper, Add	164.36	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	112.41	
		For Stainless Steel, Add	584.51	
23 37 13 43-0034	EA	20" x 8" Steel Security Grille	587.95	38.52
		For Anchoring Tabs, Add	51.09	
		For Rear Operated Opposed Blade Damper, Add	186.53	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	127.73	
		For Stainless Steel, Add	664.21	
23 37 13 43-0035	EA	20" x 10" Steel Security Grille	648.73	40.29
		For Anchoring Tabs, Add	56.82	
		For Rear Operated Opposed Blade Damper, Add	206.91	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	142.04	
		For Stainless Steel, Add	738.60	
23 37 13 43-0036	EA	20" x 12" Steel Security Grille	714.78	42.67
		For Anchoring Tabs, Add	62.95	
		For Rear Operated Opposed Blade Damper, Add	228.84	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	157.37	
		For Stainless Steel, Add	818.30	
23 37 13 43-0037	EA	20" x 14" Steel Security Grille	787.81	44.44
		For Anchoring Tabs, Add	69.90	
		For Rear Operated Opposed Blade Damper, Add	253.52	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	174.74	
		For Stainless Steel, Add	908.64	
23 37 13 43-0038	EA	20" x 16" Steel Security Grille	852.69	46.22
		For Anchoring Tabs, Add	76.03	
		For Rear Operated Opposed Blade Damper, Add	275.33	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	190.07	
		For Stainless Steel, Add	988.34	
23 37 13 43-0039	EA	20" x 18" Steel Security Grille	913.47	47.99
		For Anchoring Tabs, Add	81.75	
		For Rear Operated Opposed Blade Damper, Add	295.72	
		For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
		For 1" x 1" Square Holes On Face, Add	204.37	
		For Stainless Steel, Add	1,062.74	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Distribution			23 30	
Air Outlets and Inlets			23 37	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 37 13 43-0040	EA		20" x 20" Steel Security Grille.....	986.51	49.77
			For Anchoring Tabs, Add	88.70	
			For Rear Operated Opposed Blade Damper, Add	320.39	
			For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
			For 1" x 1" Square Holes On Face, Add	221.74	
			For Stainless Steel, Add	1,153.06	
23 37 13 43-0041	EA		24" x 6" Steel Security Grille.....	576.87	39.10
			For Anchoring Tabs, Add	49.87	
			For Rear Operated Opposed Blade Damper, Add	182.35	
			For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
			For 1" x 1" Square Holes On Face, Add	124.67	
			For Stainless Steel, Add	648.27	
23 37 13 43-0042	EA		24" x 8" Steel Security Grille.....	653.46	42.67
			For Anchoring Tabs, Add	56.82	
			For Rear Operated Opposed Blade Damper, Add	207.38	
			For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
			For 1" x 1" Square Holes On Face, Add	142.04	
			For Stainless Steel, Add	738.60	
23 37 13 43-0043	EA		24" x 10" Steel Security Grille.....	717.14	43.84
			For Anchoring Tabs, Add	62.95	
			For Rear Operated Opposed Blade Damper, Add	229.08	
			For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
			For 1" x 1" Square Holes On Face, Add	157.37	
			For Stainless Steel, Add	818.30	
23 37 13 43-0044	EA		24" x 12" Steel Security Grille.....	804.29	48.58
			For Anchoring Tabs, Add	70.71	
			For Rear Operated Opposed Blade Damper, Add	257.21	
			For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
			For 1" x 1" Square Holes On Face, Add	176.78	
			For Stainless Steel, Add	919.27	
23 37 13 43-0045	EA		24" x 14" Steel Security Grille.....	869.15	50.37
			For Anchoring Tabs, Add	76.84	
			For Rear Operated Opposed Blade Damper, Add	279.03	
			For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
			For 1" x 1" Square Holes On Face, Add	192.11	
			For Stainless Steel, Add	998.97	
23 37 13 43-0046	EA		24" x 16" Steel Security Grille.....	950.37	52.14
			For Anchoring Tabs, Add	84.61	
			For Rear Operated Opposed Blade Damper, Add	306.56	
			For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
			For 1" x 1" Square Holes On Face, Add	211.53	
			For Stainless Steel, Add	1,099.93	
23 37 13 43-0047	EA		24" x 18" Steel Security Grille.....	1,043.83	53.92
			For Anchoring Tabs, Add	93.60	
			For Rear Operated Opposed Blade Damper, Add	338.39	
			For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
			For 1" x 1" Square Holes On Face, Add	234.01	
			For Stainless Steel, Add	1,216.83	
23 37 13 43-0048	EA		24" x 20" Steel Security Grille.....	1,108.69	55.69
			For Anchoring Tabs, Add	99.73	
			For Rear Operated Opposed Blade Damper, Add	360.20	
			For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
			For 1" x 1" Square Holes On Face, Add	249.33	
			For Stainless Steel, Add	1,296.53	
23 37 13 43-0049	EA		24" x 24" Steel Security Grille.....	1,246.60	59.25
			For Anchoring Tabs, Add	112.81	
			For Rear Operated Opposed Blade Damper, Add	406.69	
			For Each Square Inch With 1/4" Steel Backer Plate Case Hardened To Rockwell "C" 56/58, Add	0.35	
			For 1" x 1" Square Holes On Face, Add	282.03	
			For Stainless Steel, Add	1,466.57	

23 37 23 HVAC Gravity Ventilators (23 37)

23 37 23 13 HVAC Gravity Dome Ventilators (23 37 23)

23 37 23 13-0001 Rectangular Gravity Intake/Relief Ventilator Hood (23 37 23 13)

Note: Includes flange base and bird screen. Excludes curb.

23 37 23 13-0002	EA	8" x 8" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,094.49	68.60
23 37 23 13-0003	EA	8" x 12" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,155.82	78.53
23 37 23 13-0004	EA	8" x 18" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,445.21	97.69
23 37 23 13-0005	EA	8" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,539.40	103.96
23 37 23 13-0006	EA	8" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,797.44	120.99
23 37 23 13-0007	EA	10" x 10" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,291.05	78.06
23 37 23 13-0008	EA	12" x 12" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,419.34	88.00
23 37 23 13-0009	EA	12" x 18" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,649.58	94.61
23 37 23 13-0010	EA	12" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,791.92	114.67
23 37 23 13-0011	EA	12" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,065.40	123.00
23 37 23 13-0012	EA	12" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,338.65	130.57
23 37 23 13-0013	EA	14" x 14" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,543.61	89.05
23 37 23 13-0014	EA	14" x 18" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,759.04	101.48
23 37 23 13-0015	EA	14" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,974.47	113.90
23 37 23 13-0016	EA	14" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,225.70	128.44
23 37 23 13-0017	EA	14" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,512.96	145.00
23 37 23 13-0018	EA	16" x 16" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,866.67	107.74
23 37 23 13-0019	EA	16" x 20" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,938.50	111.88

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 37 Air Outlets and Inlets**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 37 23 13-0020	EA	16" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,153.91	124.30
23 37 23 13-0021	EA	16" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,441.05	140.86
23 37 23 13-0022	EA	16" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,728.21	157.42
23 37 23 13-0023	EA	16" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	3,123.12	180.24
23 37 23 13-0024	EA	18" x 18" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,855.67	106.20
23 37 23 13-0025	EA	18" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,159.27	123.60
23 37 23 13-0026	EA	18" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,463.00	140.98
23 37 23 13-0027	EA	18" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,800.37	160.25
23 37 23 13-0028	EA	18" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	3,103.99	177.64
23 37 23 13-0029	EA	20" x 20" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	1,947.90	117.80
23 37 23 13-0030	EA	20" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,203.30	133.29
23 37 23 13-0031	EA	20" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,458.80	148.67
23 37 23 13-0032	EA	20" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,842.02	171.84
23 37 23 13-0033	EA	20" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	3,129.37	189.24
23 37 23 13-0034	EA	24" x 24" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,455.20	158.37
23 37 23 13-0035	EA	24" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,724.64	175.75
23 37 23 13-0036	EA	24" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	3,113.92	200.83
23 37 23 13-0037	EA	24" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	3,413.31	220.10
23 37 23 13-0038	EA	24" x 48" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	3,742.68	241.39
23 37 23 13-0039	EA	30" x 30" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	2,954.18	180.24
23 37 23 13-0040	EA	30" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	3,255.07	198.58
23 37 23 13-0041	EA	30" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	3,583.40	218.56
23 37 23 13-0042	EA	30" x 48" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	3,911.61	238.67
23 37 23 13-0043	EA	30" x 54" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	4,759.52	290.35
23 37 23 13-0044	EA	30" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	5,087.87	310.34
23 37 23 13-0045	EA	36" x 36" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	3,406.62	223.65
23 37 23 13-0046	EA	36" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	3,737.04	245.30
23 37 23 13-0047	EA	36" x 48" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	4,474.28	293.67
23 37 23 13-0048	EA	36" x 54" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	4,982.68	327.02
23 37 23 13-0049	EA	36" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	5,287.83	347.12
23 37 23 13-0050	EA	36" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	5,694.54	373.74
23 37 23 13-0051	EA	36" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	6,406.40	420.45
23 37 23 13-0052	EA	42" x 42" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	4,064.58	250.38
23 37 23 13-0053	EA	42" x 48" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	5,046.43	310.82
23 37 23 13-0054	EA	42" x 54" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	5,754.35	354.46
23 37 23 13-0055	EA	42" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	5,959.80	367.11
23 37 23 13-0056	EA	42" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	6,644.84	409.22
23 37 23 13-0057	EA	42" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	7,307.03	450.02
23 37 23 13-0058	EA	48" x 48" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	5,366.14	361.43
23 37 23 13-0059	EA	48" x 54" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	5,804.71	391.00
23 37 23 13-0060	EA	48" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	6,243.16	420.58
23 37 23 13-0061	EA	48" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	6,932.20	466.93
23 37 23 13-0062	EA	48" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	7,340.47	473.08
23 37 23 13-0063	EA	54" x 54" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	6,229.10	407.44
23 37 23 13-0064	EA	54" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	6,987.24	457.00
23 37 23 13-0065	EA	54" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	7,581.52	495.91
23 37 23 13-0066	EA	54" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	8,073.20	528.08
23 37 23 13-0067	EA	60" x 60" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	7,764.18	507.26
23 37 23 13-0068	EA	60" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	8,153.44	540.74
23 37 23 13-0069	EA	60" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	8,740.36	582.25
23 37 23 13-0070	EA	66" x 66" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	8,150.72	584.97
23 37 23 13-0071	EA	66" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	9,531.32	684.08
23 37 23 13-0072	EA	72" x 72" Throat, Galvanized Steel, Gravity Intake/Relief Ventilator Hood (Greenheck FGI).....	9,827.52	630.74

23 37 23 13-0073 Round Gravity Relief Ventilator Hood (23 37 23 13)

Note: Includes integral birdscreen and built-in curb cap with prepunched holes.

23 37 23 13-0074	EA	22" x 22" Base/Panel, 12" x 12" Throat, Aluminum, Gravity Intake/Relief Ventilator Hood (Greenheck GRS)	682.69	88.00

23 38 Ventilation Hoods (23 30)**23 38 13 Commercial-Kitchen Hoods (23 38)****23 38 13 13 Listed Commercial-Kitchen Hoods (23 38 13)****23 38 13 13-0001 Universal Ventless Hood (23 38 13 13)**

23 38 13 13-0002	EA	109" Wide x 50" Deep x 102" High, Ventless Exhaust Hood With Stand, (Wells WVU-96)	52,734.05	472.46

23 38 13 16 Standard Commercial-Kitchen Hoods (23 38 13)**23 38 13 16-0001 Commercial Kitchen Hood Ventilation System (23 38 13 16)**

Note: Excludes fire suppression. See CSI section 23 34 16 00-0108 for exhaust and supply fans.

23 38 13 16-0002 Dry Filter Exhaust Hoods (23 38 13 16-0001)

Note: Includes stainless steel filters, exhaust damper and 48" long fluorescent light fixtures.

23 38 13 16-0003	EA	8' Long x 60" Deep Dry Filter Exhaust Hood	12,362.23	886.41
23 38 13 16-0004	EA	8'-6" Long x 60" Deep Dry Filter Exhaust Hood	12,873.24	941.82
23 38 13 16-0005	EA	9' Long x 60" Deep Dry Filter Exhaust Hood	14,371.87	997.22
23 38 13 16-0006	EA	9'-6" Long x 60" Deep Dry Filter Exhaust Hood	14,801.12	1,052.62
23 38 13 16-0007	EA	10' Long x 60" Deep Dry Filter Exhaust Hood	15,326.80	1,108.02



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Air Distribution

23 30

Ventilation Hoods

23 38



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 38 13 16-0008 EA 10'-6" Long x 60" Deep Dry Filter Exhaust Hood.....	15,883.35	1,163.42
23 38 13 16-0009 EA 11' Long x 60" Deep Dry Filter Exhaust Hood.....	16,409.69	1,218.82
23 38 13 16-0010 EA 11'-6" Long x 60" Deep Dry Filter Exhaust Hood.....	16,952.54	1,274.22
23 38 13 16-0011 EA 12' Long x 60" Deep Dry Filter Exhaust Hood.....	17,558.32	1,329.63
23 38 13 16-0012 EA 12'-6" Long x 60" Deep Dry Filter Exhaust Hood.....	18,081.89	1,385.03
23 38 13 16-0013 EA 13' Long x 60" Deep Dry Filter Exhaust Hood.....	18,512.20	1,440.43
23 38 13 16-0014 EA 13'-6" Long x 60" Deep Dry Filter Exhaust Hood.....	19,247.52	1,495.83
23 38 13 16-0015 EA 14' Long x 60" Deep Dry Filter Exhaust Hood.....	21,571.23	1,551.23
23 38 13 16-0016 EA 14'-6" Long x 60" Deep Dry Filter Exhaust Hood.....	22,148.34	1,606.63
23 38 13 16-0017 EA 15' Long x 60" Deep Dry Filter Exhaust Hood.....	22,939.33	1,662.03
23 38 13 16-0018 EA 15'-6" Long x 60" Deep Dry Filter Exhaust Hood.....	23,530.08	1,717.44
23 38 13 16-0019 EA 16' Long x 60" Deep Dry Filter Exhaust Hood.....	24,421.40	1,772.84
23 38 13 16-0020 Dry Extractor Exhaust Hoods (23 38 13 16-0001)		
Note: Includes extractor inserts, exhaust damper, 48" long fluorescent light fixtures, and UDS filler panels.		
23 38 13 16-0021 EA 8' Long x 60" Deep Dry Extractor Exhaust Hood.....	17,402.37	886.41
23 38 13 16-0022 EA 8'-6" Long x 60" Deep Dry Extractor Exhaust Hood.....	17,945.28	941.82
23 38 13 16-0023 EA 9' Long x 60" Deep Dry Extractor Exhaust Hood.....	19,539.61	997.22
23 38 13 16-0024 EA 9'-6" Long x 60" Deep Dry Extractor Exhaust Hood.....	20,096.46	1,052.62
23 38 13 16-0025 EA 10' Long x 60" Deep Dry Extractor Exhaust Hood.....	20,654.04	1,108.02
23 38 13 16-0026 EA 10'-6" Long x 60" Deep Dry Extractor Exhaust Hood.....	21,178.69	1,163.42
23 38 13 16-0027 EA 11' Long x 60" Deep Dry Extractor Exhaust Hood.....	21,736.93	1,218.82
23 38 13 16-0028 EA 11'-6" Long x 60" Deep Dry Extractor Exhaust Hood.....	22,263.83	1,274.22
23 38 13 16-0029 EA 12' Long x 60" Deep Dry Extractor Exhaust Hood.....	22,757.96	1,329.63
23 38 13 16-0030 EA 12'-6" Long x 60" Deep Dry Extractor Exhaust Hood.....	23,472.93	1,385.03
23 38 13 16-0031 EA 13' Long x 60" Deep Dry Extractor Exhaust Hood.....	24,301.99	1,440.43
23 38 13 16-0032 EA 13'-6" Long x 60" Deep Dry Extractor Exhaust Hood.....	25,180.85	1,495.83
23 38 13 16-0033 EA 14' Long x 60" Deep Dry Extractor Exhaust Hood.....	27,042.02	1,551.23
23 38 13 16-0034 EA 14'-6" Long x 60" Deep Dry Extractor Exhaust Hood.....	27,938.12	1,606.63
23 38 13 16-0035 EA 15' Long x 60" Deep Dry Extractor Exhaust Hood.....	29,702.05	1,662.03
23 38 13 16-0036 EA 15'-6" Long x 60" Deep Dry Extractor Exhaust Hood.....	31,489.04	1,717.44
23 38 13 16-0037 EA 16' Long x 60" Deep Dry Extractor Exhaust Hood.....	33,257.60	1,772.84
23 38 13 16-0038 Single Manifold Water Wash Exhaust Hoods (23 38 13 16-0001)		
Note: Includes extraction baffles, 48" long fluorescent light fixtures, and UDS filler panels. Excludes fan wash control panel.		
23 38 13 16-0039 EA 8' Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	18,678.36	886.41
23 38 13 16-0040 EA 8'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	19,253.16	941.82
23 38 13 16-0041 EA 9' Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	20,879.40	997.22
23 38 13 16-0042 EA 9'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	21,452.19	1,052.62
23 38 13 16-0043 EA 10' Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	22,057.63	1,108.02
23 38 13 16-0044 EA 10'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	22,614.17	1,163.42
23 38 13 16-0045 EA 11' Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	23,188.37	1,218.82
23 38 13 16-0046 EA 11'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	23,763.11	1,274.22
23 38 13 16-0047 EA 12' Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	24,273.20	1,329.63
23 38 13 16-0048 EA 12'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	25,051.96	1,385.03
23 38 13 16-0049 EA 13' Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	25,944.82	1,440.43
23 38 13 16-0050 EA 13'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	26,887.48	1,495.83
23 38 13 16-0051 EA 14' Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	28,812.45	1,551.23
23 38 13 16-0052 EA 14'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	29,772.35	1,606.63
23 38 13 16-0053 EA 15' Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	31,711.73	1,662.03
23 38 13 16-0054 EA 15'-6" Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	32,669.33	1,717.44
23 38 13 16-0055 EA 16' Long x 60" Deep Single Manifold Water Wash Exhaust Hood.....	33,624.45	1,772.84
23 38 13 16-0056 EA Fan Wash Control Panel.....	13,450.65	443.21
Note: Includes time clock and backflow preventer.		
23 38 13 16-0057 Utility Distribution System (UDS) (23 38 13 16-0001)		
Note: Includes "L" shaped primary riser, secondary riser, horizontal mechanical and electrical raceway; 2" IPS looped gas manifold with two (2) solenoid gas valves; 1" hot water manifold; 1" cold water manifold; 100 Amp 120-208 VAC/3 Ph/60 Hz main shunt trip connectors; equipment restraints; flexible drain connectors; and power interruption device. Excludes main shunt breaker.		
23 38 13 16-0058 EA 8' Long Utility Distribution System (UDS).....	34,740.63	450.75
23 38 13 16-0059 EA 8'-6" Long Utility Distribution System (UDS).....	35,766.32	461.72
23 38 13 16-0060 EA 9' Long Utility Distribution System (UDS).....	36,780.84	472.46
23 38 13 16-0061 EA 9'-6" Long Utility Distribution System (UDS).....	37,804.12	487.53
23 38 13 16-0062 EA 10' Long Utility Distribution System (UDS).....	38,821.15	499.50
23 38 13 16-0063 EA 10'-6" Long Utility Distribution System (UDS).....	39,828.58	512.12
23 38 13 16-0064 EA 11' Long Utility Distribution System (UDS).....	40,849.93	520.88
23 38 13 16-0065 EA 11'-6" Long Utility Distribution System (UDS).....	41,870.38	534.62
23 38 13 16-0066 EA 12' Long Utility Distribution System (UDS).....	42,902.31	554.02
23 38 13 16-0067 EA 12'-6" Long Utility Distribution System (UDS).....	43,948.13	580.38
23 38 13 16-0068 EA 13' Long Utility Distribution System (UDS).....	44,975.30	597.44
23 38 13 16-0069 EA 13'-6" Long Utility Distribution System (UDS).....	46,017.13	621.82
23 38 13 16-0070 EA 14' Long Utility Distribution System (UDS).....	47,049.45	641.43
23 38 13 16-0071 EA 14'-6" Long Utility Distribution System (UDS).....	48,084.33	662.38
23 38 13 16-0072 EA 15' Long Utility Distribution System (UDS).....	49,122.04	684.76
23 38 13 16-0073 EA 15'-6" Long Utility Distribution System (UDS).....	50,162.84	708.58
23 38 13 16-0074 EA 16' Long Utility Distribution System (UDS).....	51,189.65	725.53

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 30 HVAC Air Distribution****23 38 Ventilation Hoods**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT UNIT COST DEMOLITION UNIT COST

23 38 13 16-0075		Stainless Steel Exhaust Hood Material (23 38 13 16)		
		Note: Welded seams.		
23 38 13 16-0076	SF	16 Gauge, Type 304, Stainless Steel Exhaust Hood Material	47.11	15.88
		For Type 316 Stainless Steel, Add	1.42	
23 38 13 16-0077	SF	14 Gauge, Type 304, Stainless Steel Exhaust Hood Material	58.89	21.17
		For Type 316 Stainless Steel, Add	1.77	
23 38 13 16-0078	SF	12 Gauge, Type 304, Stainless Steel Exhaust Hood Material	81.79	28.58
		For Type 316 Stainless Steel, Add	2.48	
23 38 13 16-0079	SF	10 Gauge, Type 304, Stainless Steel Exhaust Hood Material	102.43	34.93
		For Type 316 Stainless Steel, Add	3.19	
23 38 13 16-0080		Kitchen Exhaust Hood (23 38 13 16)		
23 38 13 16-0081	EA	10' x 4', Type 1, Low Ceiling Sloped Front Commercial Kitchen Hood System With PSP Makeup Air (Halifax LPSHP1048).....	10,626.37	2,182.89
		Note: Ductwork connections by others.		
		For Type 316 Stainless Steel, Add	626.06	
23 38 13 16-0082	EA	8' x 4', Type 1, Commercial Kitchen Hood System With Short Cycle Makeup Air (Halifax SCHP848)	9,753.21	1,746.31
		Note: Ductwork connections by others.		
		For Type 316 Stainless Steel, Add	626.06	
23 38 13 16-0083	EA	4' x 4', Type 1, Low Ceiling Sloped Front Commercial Kitchen Hood System (Halifax LEXHP448)	5,313.65	873.15
		Note: Ductwork connections by others.		
		For Type 316 Stainless Steel, Add	356.73	
23 38 13 16-0084	EA	6' x 4', Type 1, Low Ceiling Sloped Front Commercial Kitchen Hood System (Halifax LEXHP648)	6,798.15	1,309.73
		Note: Ductwork connections by others.		
		For Type 316 Stainless Steel, Add	417.87	
23 38 13 16-0085	EA	5' x 4', Type 1, Commercial Kitchen Hood System (Halifax EXHP548)	6,146.78	1,091.44
		Note: Ductwork connections by others.		
		For Type 316 Stainless Steel, Add	396.39	

23 40 HVAC Air Cleaning Devices (23)**23 41 Particulate Air Filtration** (23 40)**23 41 13 Panel Air Filters** (23 41)

23 41 13 00-0001		Disposable Fiberglass Air Filters (23 41 13)		
23 41 13 00-0002	EA	8" x 16" x 1" Disposable Fiberglass Air Filter, MERV 5.....	13.18	5.69
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0003	EA	8" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5.....	13.18	5.69
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0004	EA	8" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5.....	12.90	5.69
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0005	EA	10" x 10" x 1" Disposable Fiberglass Air Filter, MERV 5.....	12.80	5.95
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0006	EA	10" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5.....	12.80	5.95
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0007	EA	10" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5.....	12.80	5.95
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0008	EA	10" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5.....	12.80	5.95
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0009	EA	10" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5.....	13.03	5.95
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0010	EA	12" x 12" x 1" Disposable Fiberglass Air Filter, MERV 5.....	13.52	6.22
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0011	EA	12" x 16" x 1" Disposable Fiberglass Air Filter, MERV 5.....	13.50	6.22
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0012	EA	12" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5.....	12.84	6.22
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0013	EA	12" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5.....	12.84	6.22
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0014	EA	12" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5.....	12.84	6.22
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0015	EA	12" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5.....	15.39	6.22
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0016	EA	12" x 36" x 1" Disposable Fiberglass Air Filter, MERV 5.....	18.31	6.22
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0017	EA	14" x 14" x 1" Disposable Fiberglass Air Filter, MERV 5.....	14.56	6.57
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0018	EA	14" x 18" x 1" Disposable Fiberglass Air Filter, MERV 5.....	17.00	6.57
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0019	EA	14" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5.....	13.63	6.57
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0020	EA	14" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5.....	14.56	6.57
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0021	EA	14" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5.....	13.63	6.57
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0022	EA	14" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5.....	15.44	6.57
		Note: One-piece kraft fiberboard frame with two metal grids.		
23 41 13 00-0023	EA	15" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5.....	13.78	6.76
		Note: One-piece kraft fiberboard frame with two metal grids.		



Heating, Ventilating, and Air-Conditioning (HVAC)			23
HVAC Air Cleaning Devices			23 40
Particulate Air Filtration			23 41

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 41 13 00-0024	EA	15" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.78	6.76
23 41 13 00-0025	EA	15" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.04	6.76
23 41 13 00-0026	EA	16" x 16" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.92	6.85
23 41 13 00-0027	EA	16" x 18" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	15.51	6.85
23 41 13 00-0028	EA	16" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.98	6.85
23 41 13 00-0029	EA	16" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	14.91	6.85
23 41 13 00-0030	EA	16" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.37	6.85
23 41 13 00-0031	EA	16" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.17	6.85
23 41 13 00-0032	EA	16" x 32" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	21.71	6.85
23 41 13 00-0033	EA	16" x 36" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	21.42	6.85
23 41 13 00-0034	EA	18" x 18" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	15.27	7.11
23 41 13 00-0035	EA	18" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	14.91	7.11
23 41 13 00-0036	EA	18" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	15.27	7.11
23 41 13 00-0037	EA	18" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.51	7.11
23 41 13 00-0038	EA	18" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.30	7.11
23 41 13 00-0039	EA	18" x 36" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	20.36	7.11
23 41 13 00-0040	EA	19" x 27" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.05	7.47
23 41 13 00-0041	EA	20" x 20" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	14.19	7.47
23 41 13 00-0042	EA	20" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.42	7.47
23 41 13 00-0043	EA	20" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.66	7.47
23 41 13 00-0044	EA	20" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.19	7.47
23 41 13 00-0045	EA	20" x 32" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	22.55	7.47
23 41 13 00-0046	EA	20" x 36" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	20.26	7.47
23 41 13 00-0047	EA	21" x 21" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.35	7.55
23 41 13 00-0048	EA	22" x 22" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.52	7.64
23 41 13 00-0049	EA	24" x 24" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.64	7.73
23 41 13 00-0050	EA	24" x 30" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.26	7.73
23 41 13 00-0051	EA	24" x 36" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	24.62	7.73
23 41 13 00-0052	EA	25" x 25" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.76	7.82
23 41 13 00-0053	EA	25" x 32" x 1" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	25.12	7.82
23 41 13 00-0054	EA	10" x 10" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	14.72	5.95
23 41 13 00-0055	EA	10" x 20" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	13.66	5.95
23 41 13 00-0056	EA	12" x 24" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	15.99	6.22
23 41 13 00-0057	EA	14" x 20" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.46	6.57
23 41 13 00-0058	EA	14" x 25" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.46	6.57
23 41 13 00-0059	EA	15" x 20" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.81	6.76
23 41 13 00-0060	EA	16" x 20" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.69	6.85
23 41 13 00-0061	EA	16" x 24" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.53	6.85
23 41 13 00-0062	EA	16" x 25" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	16.92	6.85
23 41 13 00-0063	EA	18" x 24" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	17.96	7.11
23 41 13 00-0064	EA	20" x 20" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.55	7.47
23 41 13 00-0065	EA	20" x 24" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.28	7.47

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 40 HVAC Air Cleaning Devices****23 41 Particulate Air Filtration**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 41 13 00-0066	EA	20" x 25" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.28	7.47
23 41 13 00-0067	EA	24" x 24" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	18.91	7.73
23 41 13 00-0068	EA	25" x 25" x 2" Disposable Fiberglass Air Filter, MERV 5..... Note: One-piece kraft fiberboard frame with two metal grids.	19.03	7.82
23 41 13 00-0069 Disposable Pleated Air Filters (23 41 13)				
23 41 13 00-0070	EA	10" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	13.87	5.95
23 41 13 00-0071	EA	10" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	20.87	5.95
23 41 13 00-0072	EA	10" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	26.39	5.95
23 41 13 00-0073	EA	12" x 12" x 1" Disposable Pleated Air Filter, MERV 8.....	18.00	6.22
23 41 13 00-0074	EA	12" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	16.70	6.22
23 41 13 00-0075	EA	12" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	16.49	6.22
23 41 13 00-0076	EA	12" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	16.49	6.22
23 41 13 00-0077	EA	12" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	26.75	6.22
23 41 13 00-0078	EA	14" x 14" x 1" Disposable Pleated Air Filter, MERV 8.....	20.41	6.57
23 41 13 00-0079	EA	14" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	17.17	6.57
23 41 13 00-0080	EA	14" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	22.06	6.57
23 41 13 00-0081	EA	14" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	17.76	6.57
23 41 13 00-0082	EA	14" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	25.74	6.57
23 41 13 00-0083	EA	15" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	17.53	6.76
23 41 13 00-0084	EA	16" x 16" x 1" Disposable Pleated Air Filter, MERV 8.....	20.76	6.85
23 41 13 00-0085	EA	16" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	17.25	6.85
23 41 13 00-0086	EA	16" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	20.20	6.85
23 41 13 00-0087	EA	16" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	17.91	6.85
23 41 13 00-0088	EA	16" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	26.09	6.85
23 41 13 00-0089	EA	18" x 18" x 1" Disposable Pleated Air Filter, MERV 8.....	27.93	7.11
23 41 13 00-0090	EA	18" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	20.52	7.11
23 41 13 00-0091	EA	18" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	20.16	7.11
23 41 13 00-0092	EA	18" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	19.90	7.11
23 41 13 00-0093	EA	18" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	28.10	7.11
23 41 13 00-0094	EA	20" x 20" x 1" Disposable Pleated Air Filter, MERV 8.....	18.86	7.47
23 41 13 00-0095	EA	20" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	20.20	7.47
23 41 13 00-0096	EA	20" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	19.97	7.47
23 41 13 00-0097	EA	20" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	22.66	7.47
23 41 13 00-0098	EA	22" x 22" x 1" Disposable Pleated Air Filter, MERV 8.....	27.65	7.64
23 41 13 00-0099	EA	24" x 24" x 1" Disposable Pleated Air Filter, MERV 8.....	21.53	7.73
23 41 13 00-0100	EA	24" x 30" x 1" Disposable Pleated Air Filter, MERV 8.....	34.23	7.73
23 41 13 00-0101	EA	25" x 25" x 1" Disposable Pleated Air Filter, MERV 8.....	22.81	7.82
23 41 13 00-0102	EA	10" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	16.47	5.95
23 41 13 00-0103	EA	12" x 12" x 2" Disposable Pleated Air Filter, MERV 8.....	21.63	6.22
23 41 13 00-0104	EA	12" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	17.27	6.22
23 41 13 00-0105	EA	12" x 24" x 2" Disposable Pleated Air Filter, MERV 8.....	17.00	6.22
23 41 13 00-0106	EA	14" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	17.97	6.57
23 41 13 00-0107	EA	14" x 25" x 2" Disposable Pleated Air Filter, MERV 8.....	18.78	6.57
23 41 13 00-0108	EA	15" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	18.21	6.76
23 41 13 00-0109	EA	16" x 16" x 2" Disposable Pleated Air Filter, MERV 8.....	23.02	6.85
23 41 13 00-0110	EA	16" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	17.82	6.85
23 41 13 00-0111	EA	16" x 24" x 2" Disposable Pleated Air Filter, MERV 8.....	20.41	6.85
23 41 13 00-0112	EA	16" x 25" x 2" Disposable Pleated Air Filter, MERV 8.....	18.86	6.85
23 41 13 00-0113	EA	18" x 18" x 2" Disposable Pleated Air Filter, MERV 8.....	26.65	7.11
23 41 13 00-0114	EA	18" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	22.65	7.11
23 41 13 00-0115	EA	18" x 24" x 2" Disposable Pleated Air Filter, MERV 8.....	20.52	7.11
23 41 13 00-0116	EA	18" x 25" x 2" Disposable Pleated Air Filter, MERV 8.....	21.34	7.11
23 41 13 00-0117	EA	20" x 20" x 2" Disposable Pleated Air Filter, MERV 8.....	19.90	7.47
23 41 13 00-0118	EA	20" x 24" x 2" Disposable Pleated Air Filter, MERV 8.....	21.38	7.47
23 41 13 00-0119	EA	20" x 25" x 2" Disposable Pleated Air Filter, MERV 8.....	21.12	7.47
23 41 13 00-0120	EA	20" x 30" x 2" Disposable Pleated Air Filter, MERV 8.....	30.77	7.47
23 41 13 00-0121	EA	24" x 24" x 2" Disposable Pleated Air Filter, MERV 8.....	22.67	7.73
23 41 13 00-0122	EA	25" x 25" x 2" Disposable Pleated Air Filter, MERV 8.....	25.11	7.82
23 41 13 00-0123	EA	12" x 24" x 4" Disposable Pleated Air Filter, MERV 8.....	26.34	6.22
23 41 13 00-0124	EA	16" x 20" x 4" Disposable Pleated Air Filter, MERV 8.....	28.45	6.85
23 41 13 00-0125	EA	16" x 25" x 4" Disposable Pleated Air Filter, MERV 8.....	30.46	6.85
23 41 13 00-0126	EA	18" x 24" x 4" Disposable Pleated Air Filter, MERV 8.....	32.88	7.11
23 41 13 00-0127	EA	20" x 20" x 4" Disposable Pleated Air Filter, MERV 8.....	31.19	7.47
23 41 13 00-0128	EA	20" x 24" x 4" Disposable Pleated Air Filter, MERV 8.....	34.00	7.47
23 41 13 00-0129	EA	20" x 25" x 4" Disposable Pleated Air Filter, MERV 8.....	34.25	7.47
23 41 13 00-0130	EA	24" x 24" x 4" Disposable Pleated Air Filter, MERV 8.....	37.43	7.73
23 41 13 00-0131	EA	10" x 20" x 1" Disposable Pleated Air Filter, MERV 11.....	23.93	5.95
23 41 13 00-0132	EA	10" x 24" x 1" Disposable Pleated Air Filter, MERV 11.....	23.93	5.95
23 41 13 00-0133	EA	10" x 30" x 1" Disposable Pleated Air Filter, MERV 11.....	31.19	5.95
23 41 13 00-0134	EA	12" x 12" x 1" Disposable Pleated Air Filter, MERV 11.....	25.38	6.22
23 41 13 00-0135	EA	12" x 20" x 1" Disposable Pleated Air Filter, MERV 11.....	24.73	6.22
23 41 13 00-0136	EA	12" x 24" x 1" Disposable Pleated Air Filter, MERV 11.....	24.62	6.22
23 41 13 00-0137	EA	12" x 30" x 1" Disposable Pleated Air Filter, MERV 11.....	35.43	6.22
23 41 13 00-0138	EA	14" x 14" x 1" Disposable Pleated Air Filter, MERV 11.....	28.87	6.57
23 41 13 00-0139	EA	14" x 20" x 1" Disposable Pleated Air Filter, MERV 11.....	25.36	6.57
23 41 13 00-0140	EA	14" x 24" x 1" Disposable Pleated Air Filter, MERV 11.....	32.92	6.57
23 41 13 00-0141	EA	14" x 25" x 1" Disposable Pleated Air Filter, MERV 11.....	32.18	6.57



Heating, Ventilating, and Air-Conditioning (HVAC)

23

HVAC Air Cleaning Devices

23 40

Particulate Air Filtration

23 41



MINOR			DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM				
23 41 13 00-0142	EA	14" x 30" x 1" Disposable Pleated Air Filter, MERV 11	.....	37.88	6.57
23 41 13 00-0143	EA	15" x 20" x 1" Disposable Pleated Air Filter, MERV 11	.....	24.31	6.76
23 41 13 00-0144	EA	16" x 16" x 1" Disposable Pleated Air Filter, MERV 11	.....	34.66	6.85
23 41 13 00-0145	EA	16" x 20" x 1" Disposable Pleated Air Filter, MERV 11	.....	22.66	6.85
23 41 13 00-0146	EA	16" x 24" x 1" Disposable Pleated Air Filter, MERV 11	.....	29.39	6.85
23 41 13 00-0147	EA	16" x 25" x 1" Disposable Pleated Air Filter, MERV 11	.....	26.96	6.85
23 41 13 00-0148	EA	16" x 30" x 1" Disposable Pleated Air Filter, MERV 11	.....	35.79	6.85
23 41 13 00-0149	EA	18" x 18" x 1" Disposable Pleated Air Filter, MERV 11	.....	36.61	7.11
23 41 13 00-0150	EA	18" x 20" x 1" Disposable Pleated Air Filter, MERV 11	.....	30.98	7.11
23 41 13 00-0151	EA	18" x 24" x 1" Disposable Pleated Air Filter, MERV 11	.....	27.87	7.11
23 41 13 00-0152	EA	18" x 25" x 1" Disposable Pleated Air Filter, MERV 11	.....	29.75	7.11
23 41 13 00-0153	EA	18" x 30" x 1" Disposable Pleated Air Filter, MERV 11	.....	41.45	7.11
23 41 13 00-0154	EA	20" x 20" x 1" Disposable Pleated Air Filter, MERV 11	.....	27.97	7.47
23 41 13 00-0155	EA	20" x 24" x 1" Disposable Pleated Air Filter, MERV 11	.....	30.76	7.47
23 41 13 00-0156	EA	20" x 25" x 1" Disposable Pleated Air Filter, MERV 11	.....	31.05	7.47
23 41 13 00-0157	EA	20" x 30" x 1" Disposable Pleated Air Filter, MERV 11	.....	36.24	7.47
23 41 13 00-0158	EA	22" x 22" x 1" Disposable Pleated Air Filter, MERV 11	.....	40.16	7.64
23 41 13 00-0159	EA	24" x 24" x 1" Disposable Pleated Air Filter, MERV 11	.....	33.72	7.73
23 41 13 00-0160	EA	24" x 30" x 1" Disposable Pleated Air Filter, MERV 11	.....	43.88	7.73
23 41 13 00-0161	EA	25" x 25" x 1" Disposable Pleated Air Filter, MERV 11	.....	38.02	7.82
23 41 13 00-0162	EA	10" x 20" x 2" Disposable Pleated Air Filter, MERV 11	.....	24.37	5.95
23 41 13 00-0163	EA	12" x 12" x 2" Disposable Pleated Air Filter, MERV 11	.....	25.66	6.22
23 41 13 00-0164	EA	12" x 20" x 2" Disposable Pleated Air Filter, MERV 11	.....	24.37	6.22
23 41 13 00-0165	EA	12" x 24" x 2" Disposable Pleated Air Filter, MERV 11	.....	28.70	6.22
23 41 13 00-0166	EA	14" x 20" x 2" Disposable Pleated Air Filter, MERV 11	.....	25.66	6.57
23 41 13 00-0167	EA	14" x 25" x 2" Disposable Pleated Air Filter, MERV 11	.....	26.91	6.57
23 41 13 00-0168	EA	15" x 20" x 2" Disposable Pleated Air Filter, MERV 11	.....	26.36	6.76
23 41 13 00-0169	EA	16" x 16" x 2" Disposable Pleated Air Filter, MERV 11	.....	35.40	6.85
23 41 13 00-0170	EA	16" x 20" x 2" Disposable Pleated Air Filter, MERV 11	.....	30.76	6.85
23 41 13 00-0171	EA	16" x 24" x 2" Disposable Pleated Air Filter, MERV 11	.....	29.97	6.85
23 41 13 00-0172	EA	16" x 25" x 2" Disposable Pleated Air Filter, MERV 11	.....	34.00	6.85
23 41 13 00-0173	EA	18" x 18" x 2" Disposable Pleated Air Filter, MERV 11	.....	40.84	7.11
23 41 13 00-0174	EA	18" x 20" x 2" Disposable Pleated Air Filter, MERV 11	.....	32.30	7.11
23 41 13 00-0175	EA	18" x 24" x 2" Disposable Pleated Air Filter, MERV 11	.....	36.92	7.11
23 41 13 00-0176	EA	18" x 25" x 2" Disposable Pleated Air Filter, MERV 11	.....	31.93	7.11
23 41 13 00-0177	EA	20" x 20" x 2" Disposable Pleated Air Filter, MERV 11	.....	35.44	7.47
23 41 13 00-0178	EA	20" x 24" x 2" Disposable Pleated Air Filter, MERV 11	.....	38.01	7.47
23 41 13 00-0179	EA	20" x 25" x 2" Disposable Pleated Air Filter, MERV 11	.....	38.39	7.47
23 41 13 00-0180	EA	24" x 24" x 2" Disposable Pleated Air Filter, MERV 11	.....	38.36	7.73
23 41 13 00-0181	EA	25" x 25" x 2" Disposable Pleated Air Filter, MERV 11	.....	38.86	7.82
23 41 13 00-0182	EA	12" x 24" x 4" Disposable Pleated Air Filter, MERV 11	.....	46.91	6.22
23 41 13 00-0183	EA	16" x 20" x 4" Disposable Pleated Air Filter, MERV 11	.....	48.01	6.85
23 41 13 00-0184	EA	16" x 25" x 4" Disposable Pleated Air Filter, MERV 11	.....	57.25	6.85
23 41 13 00-0185	EA	18" x 24" x 4" Disposable Pleated Air Filter, MERV 11	.....	57.16	7.11
23 41 13 00-0186	EA	20" x 20" x 4" Disposable Pleated Air Filter, MERV 11	.....	56.92	7.47
23 41 13 00-0187	EA	20" x 24" x 4" Disposable Pleated Air Filter, MERV 11	.....	62.73	7.47
23 41 13 00-0188	EA	20" x 25" x 4" Disposable Pleated Air Filter, MERV 11	.....	62.73	7.47
23 41 13 00-0189	EA	24" x 24" x 4" Disposable Pleated Air Filter, MERV 11	.....	70.04	7.73
23 41 13 00-0190	EA	8" x 16" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.64	5.69
23 41 13 00-0191	EA	8" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.64	5.69
23 41 13 00-0192	EA	8" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.64	5.69
23 41 13 00-0193	EA	10" x 10" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	31.00	5.95
23 41 13 00-0194	EA	10" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	29.64	5.95
23 41 13 00-0195	EA	10" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	31.00	5.95
23 41 13 00-0196	EA	10" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	31.00	5.95
23 41 13 00-0197	EA	10" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	31.00	5.95
23 41 13 00-0198	EA	12" x 12" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.00	6.22
23 41 13 00-0199	EA	12" x 16" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	31.36	6.22
23 41 13 00-0200	EA	12" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.00	6.22
23 41 13 00-0201	EA	12" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.00	6.22
23 41 13 00-0202	EA	12" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	31.36	6.22
23 41 13 00-0203	EA	12" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	31.36	6.22
23 41 13 00-0204	EA	12" x 36" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	32.72	6.22
23 41 13 00-0205	EA	14" x 14" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.47	6.57
23 41 13 00-0206	EA	14" x 18" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	31.83	6.57
23 41 13 00-0207	EA	14" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.47	6.57
23 41 13 00-0208	EA	14" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.47	6.57
23 41 13 00-0209	EA	14" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.47	6.57
23 41 13 00-0210	EA	14" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	31.83	6.57
23 41 13 00-0211	EA	15" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.71	6.76
23 41 13 00-0212	EA	15" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	32.07	6.76
23 41 13 00-0213	EA	15" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	32.07	6.76
23 41 13 00-0214	EA	16" x 16" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.82	6.85
23 41 13 00-0215	EA	16" x 18" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	32.18	6.85
23 41 13 00-0216	EA	16" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.82	6.85
23 41 13 00-0217	EA	16" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.82	6.85
23 41 13 00-0218	EA	16" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	30.82	6.85
23 41 13 00-0219	EA	16" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	32.18	6.85
23 41 13 00-0220	EA	16" x 32" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	32.18	6.85
23 41 13 00-0221	EA	16" x 36" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	36.59	6.85
23 41 13 00-0222	EA	18" x 18" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13	.....	31.18	7.11

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 40 HVAC Air Cleaning Devices****23 41 Particulate Air Filtration**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 41 13 00-0223 EA 18" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	33.90	7.11
23 41 13 00-0224 EA 18" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	31.18	7.11
23 41 13 00-0225 EA 18" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	33.90	7.11
23 41 13 00-0226 EA 18" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	33.90	7.11
23 41 13 00-0227 EA 18" x 36" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	36.95	7.11
23 41 13 00-0228 EA 19" x 27" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	34.38	7.47
23 41 13 00-0229 EA 20" x 20" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	31.66	7.47
23 41 13 00-0230 EA 20" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	31.66	7.47
23 41 13 00-0231 EA 20" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	31.66	7.47
23 41 13 00-0232 EA 20" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	33.02	7.47
23 41 13 00-0233 EA 20" x 32" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	37.43	7.47
23 41 13 00-0234 EA 20" x 36" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	37.43	7.47
23 41 13 00-0235 EA 21" x 21" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	34.50	7.55
23 41 13 00-0236 EA 22" x 22" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	33.25	7.64
23 41 13 00-0237 EA 24" x 24" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	36.08	7.73
23 41 13 00-0238 EA 24" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	36.08	7.73
23 41 13 00-0239 EA 24" x 36" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	40.49	7.73
23 41 13 00-0240 EA 25" x 25" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	36.20	7.82
23 41 13 00-0241 EA 25" x 32" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	40.61	7.82
23 41 13 00-0242 EA 30" x 30" x 1" Disposable Pleated Electrostatically Charged Air Filter, MERV 13.....	40.84	8.00
23 41 13 00-0243 Electrostatic Air Filters With Frame, Element And Busbar (23 41 13)		
23 41 13 00-0244 MF3 Electrostatic Air Filter, High Efficiency Non-Supported With Frame, Element And Busbar.....	70.60	
23 41 13 00-0245 MF3 Electrostatic Air Filter, Medium Efficiency Non-Supported With Frame, Element And Busbar.....	68.19	
23 41 13 00-0246 MF3 Electrostatic Air Filter, Glass/Paper Throwaway With Frame, Element And Busbar.....	2.94	
23 41 13 00-0247 Carbon Vapor Trap, Disposable V-Bank Filter (23 41 13)		
23 41 13 00-0248 EA 24" x 24" x 12" Thick Carbon Vapor, Disposable V-Bank Filter.....	940.89	17.78
23 41 16 Renewable-Media Air Filters (23 41)		
23 41 16 00-0001 Renewable-Media Electrostatic Air Filters With Frame, Element And Busbar (23 41 16)		
23 41 16 00-0002 MF3 Electrostatic Air Filter, 5' Disposable Roll Renewable With Frame, Element And Busbar.....	121.49	
23 41 19 Washable Air Filters (23 41)		
23 41 19 00-0001 Washable Electrostatic Air Filters With Frame, Element And Busbar (23 41 19)		
23 41 19 00-0002 MF3 Electrostatic Air Filter, Permanent, Washable With Frame, Element And Busbar.....	46.39	
23 41 33 High-Efficiency Particulate Filtration (23 41)		
23 41 33 00-0001 High Efficiency Particulate Air (HEPA) Filters (23 41 33)		
Note: Includes particle board and kraft paper frame and separator material.		
23 41 33 00-0002 High Efficiency Particulate Air (HEPA) Filters DOP Efficiency-95% (23 41 33 00-0001)		
23 41 33 00-0003 EA 12" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 150 CFM, Complete.....	125.19	16.59
For Removal And Replacement In Existing Equipment, Add.....	3.32	
For >10 To 25, Deduct.....	-3.13	
For >25 To 50, Deduct.....	-6.26	
For >50 To 100, Deduct.....	-9.39	
For >100, Deduct.....	-12.52	
23 41 33 00-0004 EA 24" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 375 CFM, Complete.....	166.35	18.96
For Removal And Replacement In Existing Equipment, Add.....	3.79	
For >10 To 25, Deduct.....	-4.16	
For >25 To 50, Deduct.....	-8.32	
For >50 To 100, Deduct.....	-12.48	
For >100, Deduct.....	-16.64	
23 41 33 00-0005 EA 24" x 18" x 6", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 450 CFM, Complete.....	194.68	21.93
For Removal And Replacement In Existing Equipment, Add.....	4.38	
For >10 To 25, Deduct.....	-4.87	
For >25 To 50, Deduct.....	-9.73	
For >50 To 100, Deduct.....	-14.60	
For >100, Deduct.....	-19.47	
23 41 33 00-0006 EA 24" x 24" x 6", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 700 CFM, Complete.....	223.05	24.89
For Removal And Replacement In Existing Equipment, Add.....	4.98	
For >10 To 25, Deduct.....	-5.58	
For >25 To 50, Deduct.....	-11.15	
For >50 To 100, Deduct.....	-16.73	
For >100, Deduct.....	-22.31	
23 41 33 00-0007 EA 12" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 250 CFM, Complete.....	152.45	17.78
For Removal And Replacement In Existing Equipment, Add.....	3.56	
For >10 To 25, Deduct.....	-3.81	
For >25 To 50, Deduct.....	-7.62	
For >50 To 100, Deduct.....	-11.43	
For >100, Deduct.....	-15.25	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Cleaning Devices			23 40	
Particulate Air Filtration			23 41	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 41 33 00-0008	EA		24" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 500 CFM, Complete	204.64	20.74
			For Removal And Replacement In Existing Equipment, Add	4.15	
			For >10 To 25, Deduct	-5.12	
			For >25 To 50, Deduct	-10.23	
			For >50 To 100, Deduct	-15.35	
			For >100, Deduct	-20.46	
23 41 33 00-0009	EA		24" x 18" x 12", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 875 CFM, Complete	244.57	23.70
			For Removal And Replacement In Existing Equipment, Add	4.74	
			For >10 To 25, Deduct	-6.11	
			For >25 To 50, Deduct	-12.23	
			For >50 To 100, Deduct	-18.34	
			For >100, Deduct	-24.46	
23 41 33 00-0010	EA		24" x 24" x 12", High Efficiency Particulate Air (HEPA) Filter, 95% DOP Efficiency, 1,000 CFM, Complete	290.42	29.63
			For Removal And Replacement In Existing Equipment, Add	5.93	
			For >10 To 25, Deduct	-7.26	
			For >25 To 50, Deduct	-14.52	
			For >50 To 100, Deduct	-21.78	
			For >100, Deduct	-29.04	
23 41 33 00-0011			High Efficiency Particulate Air (HEPA) Filters DOP Efficiency-99.99% (23 41 33 00-0001)		
23 41 33 00-0012	EA		12" x 12" x 3", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, Complete	107.28	14.81
			For Removal And Replacement In Existing Equipment, Add	2.96	
			For >10 To 25, Deduct	-2.68	
			For >25 To 50, Deduct	-5.36	
			For >50 To 100, Deduct	-8.05	
			For >100, Deduct	-10.73	
23 41 33 00-0013	EA		24" x 12" x 3", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, Complete	148.38	17.78
			For Removal And Replacement In Existing Equipment, Add	3.56	
			For >10 To 25, Deduct	-3.71	
			For >25 To 50, Deduct	-7.42	
			For >50 To 100, Deduct	-11.13	
			For >100, Deduct	-14.84	
23 41 33 00-0014	EA		24" x 24" x 3", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, Complete	226.87	20.74
			For Removal And Replacement In Existing Equipment, Add	4.15	
			For >10 To 25, Deduct	-5.67	
			For >25 To 50, Deduct	-11.34	
			For >50 To 100, Deduct	-17.02	
			For >100, Deduct	-22.69	
23 41 33 00-0015	EA		36" x 24" x 3", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, Complete	291.60	23.70
			For Removal And Replacement In Existing Equipment, Add	4.74	
			For >10 To 25, Deduct	-7.29	
			For >25 To 50, Deduct	-14.58	
			For >50 To 100, Deduct	-21.87	
			For >100, Deduct	-29.16	
23 41 33 00-0016	EA		8" x 8" x 6", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, Complete	101.28	11.85
			For Removal And Replacement In Existing Equipment, Add	2.37	
			For >10 To 25, Deduct	-2.53	
			For >25 To 50, Deduct	-5.06	
			For >50 To 100, Deduct	-7.60	
			For >100, Deduct	-10.13	
23 41 33 00-0017	EA		12" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 150 CFM, Complete	134.23	16.00
			For Removal And Replacement In Existing Equipment, Add	3.20	
			For >10 To 25, Deduct	-3.36	
			For >25 To 50, Deduct	-6.71	
			For >50 To 100, Deduct	-10.07	
			For >100, Deduct	-13.42	
23 41 33 00-0018	EA		24" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 325 CFM, Complete	180.62	18.96
			For Removal And Replacement In Existing Equipment, Add	3.79	
			For >10 To 25, Deduct	-4.52	
			For >25 To 50, Deduct	-9.03	
			For >50 To 100, Deduct	-13.55	
			For >100, Deduct	-18.06	
23 41 33 00-0019	EA		24" x 18" x 6", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 550 CFM, Complete	212.05	22.22
			For Removal And Replacement In Existing Equipment, Add	4.44	
			For >10 To 25, Deduct	-5.30	
			For >25 To 50, Deduct	-10.60	
			For >50 To 100, Deduct	-15.90	
			For >100, Deduct	-21.21	
23 41 33 00-0020	EA		24" x 24" x 6", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 775 CFM, Complete	242.30	24.89
			For Removal And Replacement In Existing Equipment, Add	4.98	
			For >10 To 25, Deduct	-6.06	
			For >25 To 50, Deduct	-12.12	
			For >50 To 100, Deduct	-18.17	
			For >100, Deduct	-24.23	
23 41 33 00-0021	EA		12" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 250 CFM, Complete	165.43	17.78
			For Removal And Replacement In Existing Equipment, Add	3.56	
			For >10 To 25, Deduct	-4.14	
			For >25 To 50, Deduct	-8.27	
			For >50 To 100, Deduct	-12.41	
			For >100, Deduct	-16.54	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 40 HVAC Air Cleaning Devices****23 41 Particulate Air Filtration**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 41 33 00-0022 EA 24" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 500 CFM, Complete.....	222.78	20.74
For Removal And Replacement In Existing Equipment, Add	4.15	
For >10 To 25, Deduct	-5.57	
For >25 To 50, Deduct	-11.14	
For >50 To 100, Deduct	-16.71	
For >100, Deduct	-22.28	
23 41 33 00-0023 EA 24" x 18" x 12", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 775 CFM, Complete.....	266.47	23.70
For Removal And Replacement In Existing Equipment, Add	4.74	
For >10 To 25, Deduct	-6.66	
For >25 To 50, Deduct	-13.32	
For >50 To 100, Deduct	-19.99	
For >100, Deduct	-26.65	
23 41 33 00-0024 EA 24" x 24" x 12", High Efficiency Particulate Air (HEPA) Filter, 99.99% DOP Efficiency, 1,100 CFM, Complete.....	328.33	29.63
For Removal And Replacement In Existing Equipment, Add	5.93	
For >10 To 25, Deduct	-8.21	
For >25 To 50, Deduct	-16.42	
For >50 To 100, Deduct	-24.62	
For >100, Deduct	-32.83	

23 41 33 00-0025 High Efficiency Particulate Air (HEPA) Filter Housings, 14 Gauge Galvanized Sheet Metal (23 41 33)

Note: Nominal sizes.

23 41 33 00-0026 EA 12" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	307.70	88.41
23 41 33 00-0027 EA 24" x 12" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	574.00	175.72
23 41 33 00-0028 EA 24" x 18" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	582.87	175.72
23 41 33 00-0029 EA 24" x 24" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	588.78	175.72
23 41 33 00-0030 EA 24" x 48" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	630.18	175.72
23 41 33 00-0031 EA 24" x 72" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	681.93	175.72
23 41 33 00-0032 EA 48" x 48" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	1,112.51	352.54
23 41 33 00-0033 EA 48" x 72" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	1,238.18	352.54
23 41 33 00-0034 EA 48" x 96" x 6", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	1,397.86	352.54
23 41 33 00-0035 EA 12" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	332.83	88.41
23 41 33 00-0036 EA 24" x 12" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	616.87	175.72
23 41 33 00-0037 EA 24" x 18" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	627.22	175.72
23 41 33 00-0038 EA 24" x 24" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	634.62	175.72
23 41 33 00-0039 EA 24" x 48" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	683.41	175.72
23 41 33 00-0040 EA 24" x 72" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	748.46	175.72
23 41 33 00-0041 EA 48" x 48" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	1,216.00	352.54
23 41 33 00-0042 EA 48" x 72" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	1,372.73	352.54
23 41 33 00-0043 EA 48" x 96" x 12", High Efficiency Particulate Air (HEPA) Filter Housings 14 Gauge Galvanized Sheet Metal.....	1,570.85	352.54

23 41 33 00-0044 Filter, Bag Type, 90-95% Efficiency (23 41 33)

23 41 33 00-0045 EA 0.75 - 1.25 MCFM, 24" x 12" x 29" Filter, Bag Type, 90 - 95% Efficiency.....	273.29	114.60
23 41 33 00-0046 EA 1.5 - 2.5 MCFM, 24" x 24" x 29" Filter, Bag Type, 90 - 95% Efficiency.....	314.66	114.60

23 41 33 00-0047 Filter, Bag Type, 80-85% Efficiency (23 41 33)

23 41 33 00-0048 EA 0.75 - 1.25 MCFM, 24" x 12" x 29" Filter, Bag Type, 80 - 85% Efficiency.....	268.54	114.60
23 41 33 00-0049 EA 1.5 - 2.5 MCFM, 24" x 24" x 29" Filter, Bag Type, 80 - 85% Efficiency.....	299.06	114.60

23 42 Gas-Phase Air Filtration (23 40)**23 42 13 Activated Carbon Air Filtration (23 42)**

23 42 13 00-0001 EA 12" x 24" x 1" Thick Activated Carbon Honeycomb Disposable Filter.....	45.14	8.89
23 42 13 00-0002 EA 16" x 20" x 1" Thick Activated Carbon Honeycomb Disposable Filter.....	45.65	8.89
23 42 13 00-0003 EA 16" x 25" x 1" Thick Activated Carbon Honeycomb Disposable Filter.....	45.97	8.89
23 42 13 00-0004 EA 20" x 20" x 1" Thick Activated Carbon Honeycomb Disposable Filter.....	45.97	8.89
23 42 13 00-0005 EA 20" x 25" x 1" Thick Activated Carbon Honeycomb Disposable Filter.....	49.85	8.89
23 42 13 00-0006 EA 24" x 24" x 1" Thick Activated Carbon Honeycomb Disposable Filter.....	56.22	8.89
23 42 13 00-0007 EA 12" x 24" x 2" Thick Activated Carbon Honeycomb Disposable Filter.....	57.04	10.08
23 42 13 00-0008 EA 16" x 20" x 2" Thick Activated Carbon Honeycomb Disposable Filter.....	57.47	10.08
23 42 13 00-0009 EA 16" x 25" x 2" Thick Activated Carbon Honeycomb Disposable Filter.....	57.84	10.08
23 42 13 00-0010 EA 20" x 20" x 2" Thick Activated Carbon Honeycomb Disposable Filter.....	57.84	10.08
23 42 13 00-0011 EA 20" x 25" x 2" Thick Activated Carbon Honeycomb Disposable Filter.....	62.13	10.08
23 42 13 00-0012 EA 24" x 24" x 2" Thick Activated Carbon Honeycomb Disposable Filter.....	74.08	10.08
23 42 13 00-0013 EA 16" x 20" x 1" Thick Carbon Impregnated Pleated Air Filter.....	27.40	8.89
23 42 13 00-0014 EA 16" x 25" x 1" Thick Carbon Impregnated Pleated Air Filter.....	29.24	8.89
23 42 13 00-0015 EA 20" x 20" x 1" Thick Carbon Impregnated Pleated Air Filter.....	29.31	8.89
23 42 13 00-0016 EA 20" x 25" x 1" Thick Carbon Impregnated Pleated Air Filter.....	31.72	8.89
23 42 13 00-0017 EA 24" x 24" x 1" Thick Carbon Impregnated Pleated Air Filter.....	33.87	8.89
23 42 13 00-0018 EA 16" x 20" x 2" Thick Carbon Impregnated Pleated Air Filter.....	31.73	10.08
23 42 13 00-0019 EA 16" x 25" x 2" Thick Carbon Impregnated Pleated Air Filter.....	34.94	10.08
23 42 13 00-0020 EA 20" x 20" x 2" Thick Carbon Impregnated Pleated Air Filter.....	35.62	10.08
23 42 13 00-0021 EA 20" x 25" x 2" Thick Carbon Impregnated Pleated Air Filter.....	39.61	10.08
23 42 13 00-0022 EA 24" x 24" x 2" Thick Carbon Impregnated Pleated Air Filter.....	42.15	10.08
23 42 13 00-0023 EA 24" x 24" x 4" Thick Carbon Impregnated Pleated Air Filter.....	69.54	10.66



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
HVAC Air Cleaning Devices			23 40	
Electronic Air Cleaners			23 43	

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 43 Electronic Air Cleaners (23 40)				
23 43 23 Self-Contained Electronic Air Cleaners (23 43)				
23 43 23 00-0001 Stationary Floor, Room Air Purifier (23 43 23)				
23 43 23 00-0002	EA	Stationary Floor Room Air Purifier, Up to 390 SF (Blueair Pro M)	1,132.18	
23 43 23 00-0003	EA	Stationary Floor Room Air Purifier, Up to 780 SF (Blueair Pro L)	1,575.34	
23 43 23 00-0004	EA	Stationary Floor Room Air Purifier, Up to 1,180 SF (Blueair Pro XL)	3,981.04	
23 43 23 00-0005	EA	Stationary Floor Room Air Purifier, Up to 550 SF (Delos Compact)	893.21	
23 43 23 00-0006	EA	Stationary Floor Room Air Purifier, Up to 1,125 SF (Delos 468 Ultrafine)	1,605.43	
23 43 23 00-0007	EA	Stationary Floor Room Air Purifier, Up to 3,500 SF (Delos 980P Commercial)	6,353.53	
23 43 23 00-0008 Surface Mounted, Room Air Purifier (23 43 23)				
23 43 23 00-0009	EA	Ceiling Mount Media Air Cleaner With 99.97% HEPA Filters (Honeywell F114A1067)	2,902.45	
23 43 23 00-0010	EA	Ceiling Mount Media Air Cleaner With 99.97% HEPA Filters (Honeywell F115A1064)	4,047.45	
23 43 23 00-0011	EA	Ceiling Mount Media Air Cleaner With 99.97% HEPA Filters (Honeywell F111A1063W-3S)	4,630.76	
23 43 23 00-0012 Suspension Ceiling Mounted, Room Air Purifier (23 43 23)				
23 43 23 00-0013	EA	2' x 4' Suspension Ceiling Mounted, Air Purification System (Armstrong VidaShield UV24)	3,754.81	
23 43 23 00-0014 Wall Mounted, Room Air Purifier (23 43 23)				
23 43 23 00-0015	EA	Air Purifier, Wall Mount, Bipolar Ionizer (Bi-Polar 2400)	944.40	
23 43 23 00-0016 Duct Mounted, Ionization System (23 43 23)				
23 43 23 00-0017	EA	Up To 10,000 CFM, 120/240 VAC, 50 Watt, 8 Tubes, Single Phase, Series 500 Bipolar Ionization System (AtmosAir 500FC)	11,708.36	474.01
23 43 23 00-0018	EA	Up To 15,000 CFM, 120/240 VAC, 50 Watt, 5 Tubes, Single Phase, Series 500 Bipolar Ionization System (AtmosAir 508FC)	15,901.31	592.51
23 43 33 Self-Contained Electronic Ultraviolet Germicidal Cleaners (23 43)				
23 43 33 00-0001 Suspension Ceiling Troffer Mounted, Ultraviolet Germicidal Air Purifier (23 43 33)				
23 43 33 00-0002	EA	2' x 2', Troffer Mount UVC Air Purifier (ELEDLIGHTS UVADTM1202X2)	3,832.41	
Note: 6,300 cu ft/hour air cleaning				
23 43 33 00-0003	EA	2' x 2', Troffer Mount UVC Air Purifier With 1900 Lumens LED Panel Light (ELEDLIGHTS UVALTM1202X2)	7,121.83	
Note: 6,300 cu ft/hour air cleaning				
23 43 33 00-0004	EA	2' x 4', Troffer Mount UVC Air Purifier (ELEDLIGHTS UVADTM1202X4)	8,016.73	
Note: 12,600 cu ft/hour air cleaning				
23 43 33 00-0005	EA	2' x 4', Troffer Mount UVC Air Purifier With 3800 Lumens LED Panel Light (ELEDLIGHTS UVALTM1202X4)	8,965.64	
Note: 12,600 cu ft/hour air cleaning				
23 43 33 00-0006	EA	Replace 8"x8" MERV 16, HEPA Filter In Troffer Mount UVC Air Purifier(ELEDLIGHTS UVFILTERM8X8M16)	997.27	
23 43 33 00-0007 Surface Mounted, Ultraviolet Germicidal Air Purifier (23 43 33)				
23 43 33 00-0008	EA	Surface (Wall Or Ceiling) Mounted, Germicidal UV Active Circulation Air Cleaner (ELEDLIGHTS GUV-AC)	3,464.98	
Note: 1060 cu ft/hour air cleaning				
23 43 33 00-0009 Wall Mounted, Ultraviolet Germicidal Air Purifier (23 43 33)				
23 43 33 00-0010	EA	Wall Mounted, Upper Room Germicidal UV Disinfection (ELEDLIGHTS URUVGI-NZ)	1,776.52	
23 43 33 00-0011 Wall Mounted, Ultraviolet Germicidal Fixture (UV Resources) (23 43 33)				
23 43 33 00-0012	EA	14-1/4", 8 Watt, 120-277 Volts, UV-C Light Fixture (UV Resources GLO 150 - 41824001)	953.97	75.02
23 43 33 00-0013	EA	23-1/4", 25 Watt, 120-277 Volts, UV-C Light Fixture (UV Resources GLO 225 - 41824000)	1,004.63	86.10
23 43 33 00-0014	EA	35", 36 Watt, 120-277 Volts, UV-C Light Fixture (UV Resources GLO 310 - 41824002)	1,466.99	93.47
23 43 33 00-0015 Wall Mounted, Ultraviolet Germicidal Fixtures And Accessories (Fresh-Aire UV) (23 43 33)				
23 43 33 00-0016	EA	32" Single Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-232S-TFHO)	658.96	90.71
23 43 33 00-0017	EA	32" Dual Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-232D-TFHO)	883.52	90.71
23 43 33 00-0018	EA	46" Single Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-246S-TFHO)	716.60	96.06
23 43 33 00-0019	EA	46" Dual Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-246D-TFHO)	992.32	96.06
23 43 33 00-0020	EA	60" Single Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-260S-TFHO)	780.97	101.47
23 43 33 00-0021	EA	60" Dual Lamp, Teflon Safety Coating, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-260D-TFHO)	1,275.57	101.47
23 43 33 00-0022	EA	32" Single Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-232S-HO)	622.01	90.71
23 43 33 00-0023	EA	32" Dual Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-232D-HO)	811.51	90.71
23 43 33 00-0024	EA	46" Single Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUV-246S-HO)	665.44	96.06

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 40 HVAC Air Cleaning Devices****23 43 Electronic Air Cleaners**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 43 33 00-0025 EA 46" Dual Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUVVC-246D-HO).....	890.00	96.06
23 43 33 00-0026 EA 60" Single Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUVVC-260S-HO)	678.65	101.47
23 43 33 00-0027 EA 60" Dual Lamp, High Output Commercial UV-C Core System (Fresh-Aire UV TUVVC-260D-HO).....	1,071.86	101.47
23 43 33 00-0028 EA 5' (1.5m) Remote Mounting Cable (Fresh-Aire UV TUV-CBL5).....	29.47	
23 43 33 00-0029 EA 10' (3m) Remote Mounting Cable (Fresh-Aire UV TUV-CBL10).....	37.05	
23 43 33 00-0030 EA 5" Stainless Steel Coil Mount Bracket (Fresh-Aire UV TUVVC-CMBRKT-SS5).....	41.67	
23 43 33 00-0031 EA 18" (45cm) Commercial Lamp Shield (Fresh-Aire UV TUVVC-SHIELD-18)	54.44	
23 43 33 00-0032 EA 24" (60cm) Commercial Lamp Shield (Fresh-Aire UV TUVVC-SHIELD-24)	61.07	
23 43 33 00-0033 EA 32" (81cm) Commercial Lamp Shield (Fresh-Aire UV TUVVC-SHIELD-32)	68.65	
23 43 33 00-0034 EA 46" (117cm) Commercial Lamp Shield (Fresh-Aire UV TUVVC-SHIELD-46).....	72.44	
23 43 33 00-0035 EA 60" (152cm) Commercial Lamp Shield (Fresh-Aire UV TUVVC-SHIELD-60).....	75.28	
23 43 33 00-0036 EA 110-277 VAC, Door Interlock Safety Switch Kit (Fresh-Aire UV TUVVC-INTLCK-SP).....	223.09	
23 43 33 00-0037 EA 15" (38cm) Odor Control, UVC/UVV Lamp (Fresh-Aire UV TUVL-115P-OS-50).....	167.46	60.33
Note: 1 Year Warranty		
23 43 33 00-0038 EA 18" (45cm) High Output, Commercial Series Lamp (Fresh-Aire UV TUVCL-218HO).....	202.39	63.34
Note: 2 Year Warranty		
23 43 33 00-0039 EA 24" (60cm) High Output, Commercial Series Lamp (Fresh-Aire UV TUVCL-224HO).....	217.30	70.10
Note: 2 Year Warranty		
23 43 33 00-0040 EA 32" (81cm) Commercial Series Lamp (Fresh-Aire UV TUVCL-132)	198.45	74.71
Note: 1 Year Warranty		
23 43 33 00-0041 EA 32" (81cm) Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-232TF).....	241.09	74.71
Note: 1 Year Warranty		
23 43 33 00-0042 EA 32" (81cm) High Output, Commercial Series Lamp (Fresh-Aire UV TUVCL-232HO).....	229.72	74.71
Note: 1 Year Warranty		
23 43 33 00-0043 EA 32" (81cm) High Output, Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-232HO-TF).....	264.78	74.71
Note: 1 Year Warranty		
23 43 33 00-0044 EA 46" (117cm) Commercial Series Lamp (Fresh-Aire UV TUVCL-146)	231.47	79.63
Note: 1 Year Warranty		
23 43 33 00-0045 EA 46" (117cm) Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-246TF).....	280.74	79.63
Note: 2 Year Warranty		
23 43 33 00-0046 EA 46" (117cm) High Output, Commercial Series Lamp (Fresh-Aire UV TUVCL-246HO).....	256.10	79.63
Note: 2 Year Warranty		
23 43 33 00-0047 EA 46" (117cm) High Output, Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-246HO-TF).....	307.27	79.63
Note: 2 Year Warranty		
23 43 33 00-0048 EA 60" (152cm) Commercial Series Lamp (Fresh-Aire UV TUVCL-160)	298.33	80.25
Note: 1 Year Warranty		
23 43 33 00-0049 EA 60" (152cm) Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-260TF).....	367.50	80.25
Note: 2 Year Warranty		
23 43 33 00-0050 EA 60" (152cm) High Output, Commercial Series Lamp (Fresh-Aire UV TUVCL-260HO).....	322.96	80.25
Note: 2 Year Warranty		
23 43 33 00-0051 EA 60" (152cm) High Output, Teflon Coated, Commercial Series Lamp (Fresh-Aire UV TUVCL-260HO-TF).....	425.29	80.25
Note: 1 Year Warranty		

23 50 Central Heating Equipment

Note: Where required, mechanical equipment excludes electrical connection, disconnect, or starter unless title states otherwise. See CSI section 26 05 19 16-0011 for electrical connection and termination, 26 05 83 00-0130 for terminations, 26 28 16 16-0001 for disconnect.

23 51 Breechings, Chimneys, and Stacks**23 51 13 Draft Control Devices****23 51 13 13 Draft-Induction Fans****23 51 13 13-0001 Vertical Discharge Fans**

Note: Includes chimney adapter. Excludes wiring.

23 51 13 13-0002 Axial Vane Vertical Discharge Fans

23 51 13 13-0003 EA 450 CFM Vertical Discharge Chimney Fan, Axial Vane.....	3,416.83	240.12
23 51 13 13-0004 EA 950 CFM Vertical Discharge Chimney Fan, Axial Vane.....	3,875.03	261.95
23 51 13 13-0005 EA 1,400 CFM Vertical Discharge Chimney Fan, Axial Vane.....	4,655.05	289.23
23 51 13 13-0006 EA 1,800 CFM Vertical Discharge Chimney Fan, Axial Vane.....	6,089.57	335.62

23 51 13 13-0007 Centrifugal Impeller Vertical Discharge Fans

23 51 13 13-0008 EA 700 CFM Vertical Discharge Chimney Fan, Centrifugal Impeller.....	4,111.20	261.95
23 51 13 13-0009 EA 1,100 CFM Vertical Discharge Chimney Fan, Centrifugal Impeller.....	5,017.91	289.23
23 51 13 13-0010 EA 2,300 CFM Vertical Discharge Chimney Fan, Centrifugal Impeller.....	6,521.15	338.35
23 51 13 13-0011 EA 3,000 CFM Vertical Discharge Chimney Fan, Centrifugal Impeller.....	7,725.82	379.27

23 51 13 13-0012 Accessories For Vertical Discharge Fans

23 51 13 13-0013 EA Modulating Fan Controller And Sensor	474.65	81.86

23 51 13 16 Vent Dampers**23 51 13 16-0001 Flue Shutter Draft Control Damper, Parallel Blade**

23 51 13 16-0002 EA 3" Round Flue Shutter Draft Control Damper.....	984.73	48.46
23 51 13 16-0003 EA 4" Round Flue Shutter Draft Control Damper.....	1,080.66	51.41
23 51 13 16-0004 EA 5" Round Flue Shutter Draft Control Damper.....	1,194.26	54.57
23 51 13 16-0005 EA 6" Round Flue Shutter Draft Control Damper.....	1,275.99	58.20
23 51 13 16-0006 EA 7" Round Flue Shutter Draft Control Damper.....	1,393.77	62.34



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Breechings, Chimneys, and Stacks			23 51

23

MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST
23 51 13 16-0007	EA	8" Round Flue Shutter Draft Control Damper	1,480.14		67.12
23 51 13 16-0008	EA	10" Round Flue Shutter Draft Control Damper	1,637.23		72.78
23 51 13 16-0009	EA	12" Round Flue Shutter Draft Control Damper	1,798.08		79.37
23 51 13 16-0010	EA	14" Round Flue Shutter Draft Control Damper	2,015.86		83.22
23 51 13 16-0011	EA	16" Round Flue Shutter Draft Control Damper	2,166.72		87.31
23 51 13 16-0012	EA	18" Round Flue Shutter Draft Control Damper	2,369.25		91.69
23 51 13 16-0013	EA	20" Round Flue Shutter Draft Control Damper	2,784.91		145.16
23 51 13 16-0014	EA	22" Round Flue Shutter Draft Control Damper	3,056.58		154.17
23 51 13 16-0015	EA	24" Round Flue Shutter Draft Control Damper	3,313.80		163.72
23 51 13 16-0016	EA	26" Round Flue Shutter Draft Control Damper	3,368.93		169.18
23 51 13 16-0017	EA	28" Round Flue Shutter Draft Control Damper	3,474.97		174.63
23 51 13 16-0018	EA	30" Round Flue Shutter Draft Control Damper	3,569.16		185.55
23 51 13 16-0019	EA	32" Round Flue Shutter Draft Control Damper	3,725.86		190.88
23 51 13 16-0020	EA	34" Round Flue Shutter Draft Control Damper	3,886.83		201.79
23 51 13 16-0021	EA	36" Round Flue Shutter Draft Control Damper	4,070.35		218.29
23 51 13 16-0022	EA	38" Round Flue Shutter Draft Control Damper	4,277.97		225.78
23 51 13 16-0023	EA	40" Round Flue Shutter Draft Control Damper	4,471.03		229.20
23 51 13 16-0024	EA	42" Round Flue Shutter Draft Control Damper	4,690.80		240.12
23 51 13 16-0025	EA	44" Round Flue Shutter Draft Control Damper	4,911.85		251.03
23 51 13 16-0026	EA	46" Round Flue Shutter Draft Control Damper	5,133.54		261.95
23 51 13 16-0027	EA	48" Round Flue Shutter Draft Control Damper	5,354.26		272.86
23 51 13 19 Barometric Dampers (23 51 13)					
23 51 13 19-0001 Barometric Dampers (23 51 13 19)					
23 51 13 19-0002	EA	6" x 6" Barometric Damper	458.74		9.47
23 51 13 19-0003	EA	12" x 12" Barometric Damper	663.87		13.01
23 51 13 19-0004	EA	18" x 18" Barometric Damper	888.87		20.11
23 51 13 19-0005	EA	24" x 24" Barometric Damper	1,059.90		37.85
23 51 13 19-0006	EA	6" Diameter Barometric Damper	224.03		9.47
		For Stainless Steel, Add	243.52		
23 51 13 19-0007	EA	7" Diameter Barometric Damper	265.12		10.64
		For Stainless Steel, Add	289.30		
23 51 13 19-0008	EA	8" Diameter Barometric Damper	307.59		11.82
		For Stainless Steel, Add	335.50		
23 51 13 19-0009	EA	9" Diameter Barometric Damper	378.95		11.82
		For Stainless Steel, Add	425.00		
23 51 13 19-0010	EA	10" Diameter Barometric Damper	499.98		14.19
		For Stainless Steel, Add	579.02		
23 51 13 19-0011	EA	12" Diameter Barometric Damper	635.27		15.38
		For Stainless Steel, Add	746.77		
23 51 13 19-0012	EA	14" Diameter Barometric Damper	799.15		16.56
		For Stainless Steel, Add	952.41		
23 51 13 19-0013	EA	15" Diameter Barometric Damper	953.96		17.74
		For Stainless Steel, Add	1,144.72		
23 51 13 19-0014	EA	16" Diameter Barometric Damper	1,107.01		20.11
		For Stainless Steel, Add	1,336.61		
23 51 13 19-0015	EA	18" Diameter Barometric Damper	1,458.82		21.29
		For Stainless Steel, Add	1,785.76		
23 51 13 19-0016	EA	20" Diameter Barometric Damper	1,736.79		23.66
		For Stainless Steel, Add	2,137.50		
23 51 13 19-0017	EA	24" Diameter Barometric Damper	2,094.82		23.66
		For Stainless Steel, Add	2,597.47		
23 51 13 19-0018	EA	30" Diameter Barometric Damper	2,583.20		27.20
		For Stainless Steel, Add	3,219.78		
23 51 13 19-0019	EA	36" Diameter Barometric Damper	3,296.43		28.39
		For Stainless Steel, Add	4,139.71		
23 51 16 Fabricated Breechings and Accessories (23 51)					
23 51 16 00-0001 Round Galvanized Double Wall Flue/Vent Pipe And Fittings (23 51 16)					
23 51 16 00-0002 Round Galvanized Double Wall Flue/Vent Pipe (23 51 16 00-0001)					
23 51 16 00-0003	LF	3" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe	31.23		9.71
		Note: 0.012" (inner wall) and 0.018" (outer wall) material thickness			
		For Aluminum Liner, Add	0.39		
		For 304 Stainless Steel Liner, Add	0.53		
		For 2" Wall Instead Of 1", Add	4.52		
		For 3" To 4" Wall Instead Of 1", Add	8.00		
23 51 16 00-0004	LF	4" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe	33.62		10.26
		Note: 0.012" (inner wall) and 0.018" (outer wall) material thickness			
		For Aluminum Liner, Add	0.47		
		For 304 Stainless Steel Liner, Add	0.64		
		For 2" Wall Instead Of 1", Add	5.08		
		For 3" To 4" Wall Instead Of 1", Add	8.87		
23 51 16 00-0005	LF	5" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe	37.17		10.91
		Note: 0.012" (inner wall) and 0.018" (outer wall) material thickness			
		For Aluminum Liner, Add	0.56		
		For 304 Stainless Steel Liner, Add	0.76		
		For 2" Wall Instead Of 1", Add	5.75		
		For 3" To 4" Wall Instead Of 1", Add	9.98		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0006	LF	6" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	40.59	11.68
		Note: 0.012" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	0.65	
		For 304 Stainless Steel Liner, Add	0.89	
		For 2" Wall Instead Of 1", Add	6.42	
		For 3" To 4" Wall Instead Of 1", Add	11.07	
23 51 16 00-0007	LF	7" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	47.91	12.44
		Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	0.96	
		For 304 Stainless Steel Liner, Add	1.31	
		For 2" Wall Instead Of 1", Add	8.27	
		For 3" To 4" Wall Instead Of 1", Add	13.93	
23 51 16 00-0008	LF	8" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	53.26	13.43
		Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	1.07	
		For 304 Stainless Steel Liner, Add	1.45	
		For 2" Wall Instead Of 1", Add	9.20	
		For 3" To 4" Wall Instead Of 1", Add	15.49	
23 51 16 00-0009	LF	10" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	77.55	14.41
		Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	2.25	
		For 304 Stainless Steel Liner, Add	3.07	
		For 2" Wall Instead Of 1", Add	15.94	
		For 3" To 4" Wall Instead Of 1", Add	25.74	
23 51 16 00-0010	LF	12" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	94.62	15.94
		Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	3.02	
		For 304 Stainless Steel Liner, Add	4.12	
		For 2" Wall Instead Of 1", Add	20.44	
		For 3" To 4" Wall Instead Of 1", Add	32.65	
23 51 16 00-0011	LF	14" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	133.76	16.59
		Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	5.07	
		For 304 Stainless Steel Liner, Add	6.91	
		For 2" Wall Instead Of 1", Add	31.81	
		For 3" To 4" Wall Instead Of 1", Add	49.79	
23 51 16 00-0012	LF	16" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	167.73	17.46
		Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	6.83	
		For 304 Stainless Steel Liner, Add	9.32	
		For 2" Wall Instead Of 1", Add	41.63	
		For 3" To 4" Wall Instead Of 1", Add	64.61	
23 51 16 00-0013	LF	18" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	206.84	18.34
		Note: 0.014" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	8.83	
		For 304 Stainless Steel Liner, Add	12.04	
		For 2" Wall Instead Of 1", Add	52.79	
		For 3" To 4" Wall Instead Of 1", Add	81.50	
23 51 16 00-0014	LF	20" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	262.45	29.14
		Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	10.48	
		For 304 Stainless Steel Liner, Add	14.29	
		For 2" Wall Instead Of 1", Add	64.36	
		For 3" To 4" Wall Instead Of 1", Add	100.13	
23 51 16 00-0015	LF	22" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	317.93	30.78
		Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	13.21	
		For 304 Stainless Steel Liner, Add	18.02	
		For 2" Wall Instead Of 1", Add	79.85	
		For 3" To 4" Wall Instead Of 1", Add	123.65	
23 51 16 00-0016	LF	24" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	378.70	32.74
		Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	16.29	
		For 304 Stainless Steel Liner, Add	22.21	
		For 2" Wall Instead Of 1", Add	97.11	
		For 3" To 4" Wall Instead Of 1", Add	149.79	
23 51 16 00-0017	LF	26" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	440.72	33.84
		Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	19.59	
		For 304 Stainless Steel Liner, Add	26.72	
		For 2" Wall Instead Of 1", Add	115.32	
		For 3" To 4" Wall Instead Of 1", Add	177.21	
23 51 16 00-0018	LF	28" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	462.17	34.93
		Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	20.62	
		For 304 Stainless Steel Liner, Add	28.12	
		For 2" Wall Instead Of 1", Add	121.20	
		For 3" To 4" Wall Instead Of 1", Add	186.16	
23 51 16 00-0019	LF	30" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	491.12	37.44
		Note: 0.022" (inner wall) and 0.018" (outer wall) material thickness		
		For Aluminum Liner, Add	21.87	
		For 304 Stainless Steel Liner, Add	29.83	
		For 2" Wall Instead Of 1", Add	128.65	
		For 3" To 4" Wall Instead Of 1", Add	197.64	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central Heating Equipment			23 50	
Breechings, Chimneys, and Stacks			23 51	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0020	LF		32" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	556.73	38.86
			For Aluminum Liner, Add	25.29	
			For 304 Stainless Steel Liner, Add	34.49	
			For 2" Wall Instead Of 1", Add	147.63	
			For 3" To 4" Wall Instead Of 1", Add	226.30	
23 51 16 00-0021	LF		34" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	624.66	40.28
			For Aluminum Liner, Add	28.82	
			For 304 Stainless Steel Liner, Add	39.30	
			For 2" Wall Instead Of 1", Add	167.27	
			For 3" To 4" Wall Instead Of 1", Add	255.93	
23 51 16 00-0022	LF		36" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	657.67	41.91
			For Aluminum Liner, Add	30.42	
			For 304 Stainless Steel Liner, Add	41.48	
			For 2" Wall Instead Of 1", Add	176.37	
			For 3" To 4" Wall Instead Of 1", Add	269.79	
23 51 16 00-0023	LF		38" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	713.80	43.66
			For Aluminum Liner, Add	33.26	
			For 304 Stainless Steel Liner, Add	45.36	
			For 2" Wall Instead Of 1", Add	192.34	
			For 3" To 4" Wall Instead Of 1", Add	293.96	
23 51 16 00-0024	LF		40" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	786.98	45.52
			For Aluminum Liner, Add	37.02	
			For 304 Stainless Steel Liner, Add	50.49	
			For 2" Wall Instead Of 1", Add	213.33	
			For 3" To 4" Wall Instead Of 1", Add	325.68	
23 51 16 00-0025	LF		42" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	823.31	47.59
			For Aluminum Liner, Add	38.73	
			For 304 Stainless Steel Liner, Add	52.82	
			For 2" Wall Instead Of 1", Add	223.17	
			For 3" To 4" Wall Instead Of 1", Add	340.71	
23 51 16 00-0026	LF		44" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	911.82	49.88
			For Aluminum Liner, Add	43.29	
			For 304 Stainless Steel Liner, Add	59.03	
			For 2" Wall Instead Of 1", Add	248.59	
			For 3" To 4" Wall Instead Of 1", Add	379.13	
23 51 16 00-0027	LF		46" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	990.54	52.39
			For Aluminum Liner, Add	47.28	
			For 304 Stainless Steel Liner, Add	64.47	
			For 2" Wall Instead Of 1", Add	270.96	
			For 3" To 4" Wall Instead Of 1", Add	413.00	
23 51 16 00-0028	LF		48" Round Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe.....	1,090.35	55.12
			For Aluminum Liner, Add	52.40	
			For 304 Stainless Steel Liner, Add	71.46	
			For 2" Wall Instead Of 1", Add	299.59	
			For 3" To 4" Wall Instead Of 1", Add	456.26	
23 51 16 00-0029			90 Degree Elbows (23 51 16 00-0001)		
23 51 16 00-0030	EA		3" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	80.21	19.42
			For Aluminum Liner, Add	1.76	
			For 304 Stainless Steel Liner, Add	2.41	
			For 2" Wall Instead Of 1", Add	14.44	
			For 3" To 4" Wall Instead Of 1", Add	24.06	
23 51 16 00-0031	EA		4" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	89.05	20.52
			For Aluminum Liner, Add	2.08	
			For 304 Stainless Steel Liner, Add	2.84	
			For 2" Wall Instead Of 1", Add	16.48	
			For 3" To 4" Wall Instead Of 1", Add	27.28	
23 51 16 00-0032	EA		5" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	99.54	21.83
			For Aluminum Liner, Add	2.49	
			For 304 Stainless Steel Liner, Add	3.39	
			For 2" Wall Instead Of 1", Add	19.00	
			For 3" To 4" Wall Instead Of 1", Add	31.21	
23 51 16 00-0033	EA		6" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	110.29	23.25
			For Aluminum Liner, Add	2.89	
			For 304 Stainless Steel Liner, Add	3.94	
			For 2" Wall Instead Of 1", Add	21.54	
			For 3" To 4" Wall Instead Of 1", Add	35.20	
23 51 16 00-0034	EA		7" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	132.15	24.88
			For Aluminum Liner, Add	3.87	
			For 304 Stainless Steel Liner, Add	5.27	
			For 2" Wall Instead Of 1", Add	27.27	
			For 3" To 4" Wall Instead Of 1", Add	44.00	
23 51 16 00-0035	EA		8" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	155.15	26.85
			For Aluminum Liner, Add	4.84	
			For 304 Stainless Steel Liner, Add	6.60	
			For 2" Wall Instead Of 1", Add	33.12	
			For 3" To 4" Wall Instead Of 1", Add	53.04	
23 51 16 00-0036	EA		10" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	275.44	29.14
			For Aluminum Liner, Add	11.14	
			For 304 Stainless Steel Liner, Add	15.18	
			For 2" Wall Instead Of 1", Add	68.04	
			For 3" To 4" Wall Instead Of 1", Add	105.70	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0037	EA	12" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	334.61	31.76
		For Aluminum Liner, Add	14.04	
		For 304 Stainless Steel Liner, Add	19.15	
		For 2" Wall Instead Of 1", Add	84.52	
		For 3" To 4" Wall Instead Of 1", Add	130.74	
23 51 16 00-0038	EA	14" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	436.14	33.29
		For Aluminum Liner, Add	19.41	
		For 304 Stainless Steel Liner, Add	26.47	
		For 2" Wall Instead Of 1", Add	114.21	
		For 3" To 4" Wall Instead Of 1", Add	175.47	
23 51 16 00-0039	EA	16" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	537.84	34.93
		For Aluminum Liner, Add	24.79	
		For 304 Stainless Steel Liner, Add	33.80	
		For 2" Wall Instead Of 1", Add	143.92	
		For 3" To 4" Wall Instead Of 1", Add	220.24	
23 51 16 00-0040	EA	18" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	697.62	36.78
		For Aluminum Liner, Add	33.31	
		For 304 Stainless Steel Liner, Add	45.42	
		For 2" Wall Instead Of 1", Add	190.89	
		For 3" To 4" Wall Instead Of 1", Add	290.93	
23 51 16 00-0041	EA	20" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	981.84	58.18
		For Aluminum Liner, Add	45.99	
		For 304 Stainless Steel Liner, Add	62.72	
		For 2" Wall Instead Of 1", Add	265.43	
		For 3" To 4" Wall Instead Of 1", Add	405.43	
23 51 16 00-0042	EA	22" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	1,298.49	61.66
		For Aluminum Liner, Add	62.94	
		For 304 Stainless Steel Liner, Add	85.82	
		For 2" Wall Instead Of 1", Add	358.72	
		For 3" To 4" Wall Instead Of 1", Add	545.78	
23 51 16 00-0043	EA	24" Round Flue/Vent, 90 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	1,466.66	65.48
		For Aluminum Liner, Add	71.65	
		For 304 Stainless Steel Liner, Add	97.71	
		For 2" Wall Instead Of 1", Add	407.22	
		For 3" To 4" Wall Instead Of 1", Add	619.03	
23 51 16 00-0044		45 Degree Elbows (23 51 16 00-0001)		
23 51 16 00-0045	EA	3" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	66.95	19.42
		For Aluminum Liner, Add	1.02	
		For 304 Stainless Steel Liner, Add	1.39	
		For 2" Wall Instead Of 1", Add	10.39	
		For 3" To 4" Wall Instead Of 1", Add	18.01	
23 51 16 00-0046	EA	4" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	73.20	20.52
		For Aluminum Liner, Add	1.20	
		For 304 Stainless Steel Liner, Add	1.63	
		For 2" Wall Instead Of 1", Add	11.68	
		For 3" To 4" Wall Instead Of 1", Add	20.09	
23 51 16 00-0047	EA	5" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	80.22	21.83
		For Aluminum Liner, Add	1.41	
		For 304 Stainless Steel Liner, Add	1.92	
		For 2" Wall Instead Of 1", Add	13.15	
		For 3" To 4" Wall Instead Of 1", Add	22.45	
23 51 16 00-0048	EA	6" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	88.89	23.25
		For Aluminum Liner, Add	1.69	
		For 304 Stainless Steel Liner, Add	2.30	
		For 2" Wall Instead Of 1", Add	15.03	
		For 3" To 4" Wall Instead Of 1", Add	25.45	
23 51 16 00-0049	EA	7" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	106.35	24.88
		For Aluminum Liner, Add	2.42	
		For 304 Stainless Steel Liner, Add	3.30	
		For 2" Wall Instead Of 1", Add	19.44	
		For 3" To 4" Wall Instead Of 1", Add	32.27	
23 51 16 00-0050	EA	8" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	117.73	26.85
		For Aluminum Liner, Add	2.78	
		For 304 Stainless Steel Liner, Add	3.80	
		For 2" Wall Instead Of 1", Add	21.90	
		For 3" To 4" Wall Instead Of 1", Add	36.20	
23 51 16 00-0051	EA	10" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	199.33	29.14
		For Aluminum Liner, Add	6.96	
		For 304 Stainless Steel Liner, Add	9.49	
		For 2" Wall Instead Of 1", Add	45.24	
		For 3" To 4" Wall Instead Of 1", Add	71.50	
23 51 16 00-0052	EA	12" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	238.91	31.76
		For Aluminum Liner, Add	8.78	
		For 304 Stainless Steel Liner, Add	11.97	
		For 2" Wall Instead Of 1", Add	55.80	
		For 3" To 4" Wall Instead Of 1", Add	87.67	
23 51 16 00-0053	EA	14" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe.....	307.66	33.29
		For Aluminum Liner, Add	12.35	
		For 304 Stainless Steel Liner, Add	16.84	
		For 2" Wall Instead Of 1", Add	75.66	
		For 3" To 4" Wall Instead Of 1", Add	117.65	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Breechings, Chimneys, and Stacks			23 51

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0054	EA		16" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	368.96	34.93
			For Aluminum Liner, Add	15.49	
			For 304 Stainless Steel Liner, Add	21.13	
			For 2" Wall Instead Of 1", Add	93.23	
			For 3" To 4" Wall Instead Of 1", Add	144.21	
23 51 16 00-0055	EA		18" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	470.42	36.78
			For Aluminum Liner, Add	20.82	
			For 304 Stainless Steel Liner, Add	28.39	
			For 2" Wall Instead Of 1", Add	122.74	
			For 3" To 4" Wall Instead Of 1", Add	188.71	
23 51 16 00-0056	EA		20" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	572.06	58.07
			For Aluminum Liner, Add	23.48	
			For 304 Stainless Steel Liner, Add	32.02	
			For 2" Wall Instead Of 1", Add	142.59	
			For 3" To 4" Wall Instead Of 1", Add	221.14	
23 51 16 00-0057	EA		22" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	796.75	61.66
			For Aluminum Liner, Add	35.34	
			For 304 Stainless Steel Liner, Add	48.19	
			For 2" Wall Instead Of 1", Add	208.19	
			For 3" To 4" Wall Instead Of 1", Add	320.00	
23 51 16 00-0058	EA		24" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	977.85	65.48
			For Aluminum Liner, Add	44.78	
			For 304 Stainless Steel Liner, Add	61.07	
			For 2" Wall Instead Of 1", Add	260.63	
			For 3" To 4" Wall Instead Of 1", Add	399.13	
23 51 16 00-0059	EA		26" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	1,775.54	67.67
			For Aluminum Liner, Add	88.36	
			For 304 Stainless Steel Liner, Add	120.49	
			For 2" Wall Instead Of 1", Add	498.85	
			For 3" To 4" Wall Instead Of 1", Add	756.73	
23 51 16 00-0060	EA		28" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	1,825.00	69.85
			For Aluminum Liner, Add	90.78	
			For 304 Stainless Steel Liner, Add	123.79	
			For 2" Wall Instead Of 1", Add	512.60	
			For 3" To 4" Wall Instead Of 1", Add	777.62	
23 51 16 00-0061	EA		30" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	1,923.94	74.22
			For Aluminum Liner, Add	95.62	
			For 304 Stainless Steel Liner, Add	130.39	
			For 2" Wall Instead Of 1", Add	540.10	
			For 3" To 4" Wall Instead Of 1", Add	819.42	
23 51 16 00-0062	EA		32" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	2,149.45	76.40
			For Aluminum Liner, Add	107.72	
			For 304 Stainless Steel Liner, Add	146.89	
			For 2" Wall Instead Of 1", Add	606.66	
			For 3" To 4" Wall Instead Of 1", Add	919.53	
23 51 16 00-0063	EA		34" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	2,347.42	80.76
			For Aluminum Liner, Add	118.01	
			For 304 Stainless Steel Liner, Add	160.92	
			For 2" Wall Instead Of 1", Add	663.87	
			For 3" To 4" Wall Instead Of 1", Add	1,005.89	
23 51 16 00-0064	EA		36" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	2,418.79	87.31
			For Aluminum Liner, Add	121.04	
			For 304 Stainless Steel Liner, Add	165.05	
			For 2" Wall Instead Of 1", Add	682.01	
			For 3" To 4" Wall Instead Of 1", Add	1,033.92	
23 51 16 00-0065	EA		38" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	2,591.47	90.38
			For Aluminum Liner, Add	130.11	
			For 304 Stainless Steel Liner, Add	177.43	
			For 2" Wall Instead Of 1", Add	732.29	
			For 3" To 4" Wall Instead Of 1", Add	1,109.72	
23 51 16 00-0066	EA		40" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	2,759.81	91.69
			For Aluminum Liner, Add	139.19	
			For 304 Stainless Steel Liner, Add	189.81	
			For 2" Wall Instead Of 1", Add	782.13	
			For 3" To 4" Wall Instead Of 1", Add	1,184.65	
23 51 16 00-0067	EA		42" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	2,880.73	96.05
			For Aluminum Liner, Add	145.24	
			For 304 Stainless Steel Liner, Add	198.06	
			For 2" Wall Instead Of 1", Add	816.23	
			For 3" To 4" Wall Instead Of 1", Add	1,236.34	
23 51 16 00-0068	EA		44" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	3,056.68	100.41
			For Aluminum Liner, Add	154.32	
			For 304 Stainless Steel Liner, Add	210.44	
			For 2" Wall Instead Of 1", Add	866.63	
			For 3" To 4" Wall Instead Of 1", Add	1,312.79	
23 51 16 00-0069	EA		46" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	3,287.64	104.78
			For Aluminum Liner, Add	166.42	
			For 304 Stainless Steel Liner, Add	226.94	
			For 2" Wall Instead Of 1", Add	933.94	
			For 3" To 4" Wall Instead Of 1", Add	1,414.00	
23 51 16 00-0070	EA		48" Round Flue/Vent, 45 Degree Elbow, Galvanized Double Wall Breech/Smoke Pipe	3,408.59	109.14
			For Aluminum Liner, Add	172.48	
			For 304 Stainless Steel Liner, Add	235.19	
			For 2" Wall Instead Of 1", Add	968.04	
			For 3" To 4" Wall Instead Of 1", Add	1,465.70	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0071			Tees (23 51 16 00-0001)		
23 51 16 00-0072	EA		3" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	109.88	25.87
			For Aluminum Liner, Add	2.48	
			For 304 Stainless Steel Liner, Add	3.38	
			For 2" Wall Instead Of 1", Add	20.01	
			For 3" To 4" Wall Instead Of 1", Add	33.25	
23 51 16 00-0073	EA		4" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	114.43	26.85
			For Aluminum Liner, Add	2.60	
			For 304 Stainless Steel Liner, Add	3.55	
			For 2" Wall Instead Of 1", Add	20.91	
			For 3" To 4" Wall Instead Of 1", Add	34.71	
23 51 16 00-0074	EA		5" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	119.36	27.95
			For Aluminum Liner, Add	2.72	
			For 304 Stainless Steel Liner, Add	3.71	
			For 2" Wall Instead Of 1", Add	21.84	
			For 3" To 4" Wall Instead Of 1", Add	36.25	
23 51 16 00-0075	EA		6" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	127.83	29.14
			For Aluminum Liner, Add	3.03	
			For 304 Stainless Steel Liner, Add	4.13	
			For 2" Wall Instead Of 1", Add	23.79	
			For 3" To 4" Wall Instead Of 1", Add	39.32	
23 51 16 00-0076	EA		7" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	151.88	30.34
			For Aluminum Liner, Add	4.18	
			For 304 Stainless Steel Liner, Add	5.69	
			For 2" Wall Instead Of 1", Add	30.37	
			For 3" To 4" Wall Instead Of 1", Add	49.36	
23 51 16 00-0077	EA		8" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	162.96	31.76
			For Aluminum Liner, Add	4.60	
			For 304 Stainless Steel Liner, Add	6.27	
			For 2" Wall Instead Of 1", Add	33.02	
			For 3" To 4" Wall Instead Of 1", Add	53.50	
23 51 16 00-0078	EA		10" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	309.83	33.29
			For Aluminum Liner, Add	12.47	
			For 304 Stainless Steel Liner, Add	17.00	
			For 2" Wall Instead Of 1", Add	76.32	
			For 3" To 4" Wall Instead Of 1", Add	118.63	
23 51 16 00-0079	EA		12" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	360.16	34.93
			For Aluminum Liner, Add	15.01	
			For 304 Stainless Steel Liner, Add	20.47	
			For 2" Wall Instead Of 1", Add	90.59	
			For 3" To 4" Wall Instead Of 1", Add	140.25	
23 51 16 00-0080	EA		14" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	541.53	38.86
			For Aluminum Liner, Add	24.45	
			For 304 Stainless Steel Liner, Add	33.34	
			For 2" Wall Instead Of 1", Add	143.06	
			For 3" To 4" Wall Instead Of 1", Add	219.44	
23 51 16 00-0081	EA		16" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	738.48	43.66
			For Aluminum Liner, Add	34.62	
			For 304 Stainless Steel Liner, Add	47.20	
			For 2" Wall Instead Of 1", Add	199.72	
			For 3" To 4" Wall Instead Of 1", Add	305.04	
23 51 16 00-0082	EA		18" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	916.94	49.88
			For Aluminum Liner, Add	43.57	
			For 304 Stainless Steel Liner, Add	59.42	
			For 2" Wall Instead Of 1", Add	250.14	
			For 3" To 4" Wall Instead Of 1", Add	381.45	
23 51 16 00-0083	EA		20" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	1,221.29	61.66
			For Aluminum Liner, Add	58.70	
			For 304 Stainless Steel Liner, Add	80.05	
			For 2" Wall Instead Of 1", Add	335.59	
			For 3" To 4" Wall Instead Of 1", Add	511.09	
23 51 16 00-0084	EA		22" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	1,532.76	80.55
			For Aluminum Liner, Add	73.23	
			For 304 Stainless Steel Liner, Add	99.85	
			For 2" Wall Instead Of 1", Add	419.55	
			For 3" To 4" Wall Instead Of 1", Add	639.40	
23 51 16 00-0085	EA		24" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	1,764.29	85.14
			For Aluminum Liner, Add	85.33	
			For 304 Stainless Steel Liner, Add	116.36	
			For 2" Wall Instead Of 1", Add	486.72	
			For 3" To 4" Wall Instead Of 1", Add	740.72	
23 51 16 00-0086	EA		26" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	2,429.94	91.69
			For Aluminum Liner, Add	121.04	
			For 304 Stainless Steel Liner, Add	165.05	
			For 2" Wall Instead Of 1", Add	683.12	
			For 3" To 4" Wall Instead Of 1", Add	1,036.15	
23 51 16 00-0087	EA		28" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	2,713.81	95.28
			For Aluminum Liner, Add	136.16	
			For 304 Stainless Steel Liner, Add	185.68	
			For 2" Wall Instead Of 1", Add	766.53	
			For 3" To 4" Wall Instead Of 1", Add	1,161.69	
23 51 16 00-0088	EA		30" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	2,946.81	100.41
			For Aluminum Liner, Add	148.27	
			For 304 Stainless Steel Liner, Add	202.18	
			For 2" Wall Instead Of 1", Add	833.84	
			For 3" To 4" Wall Instead Of 1", Add	1,263.31	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central Heating Equipment			23 50	
Breechings, Chimneys, and Stacks			23 51	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0089	EA		32" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	3,397.78	104.78
			For Aluminum Liner, Add	172.48	
			For 304 Stainless Steel Liner, Add	235.19	
			For 2" Wall Instead Of 1", Add	966.96	
			For 3" To 4" Wall Instead Of 1", Add	1,463.54	
23 51 16 00-0090	EA		34" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	3,463.79	109.14
			For Aluminum Liner, Add	175.50	
			For 304 Stainless Steel Liner, Add	239.32	
			For 2" Wall Instead Of 1", Add	984.57	
			For 3" To 4" Wall Instead Of 1", Add	1,490.49	
23 51 16 00-0091	EA		36" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	4,032.29	116.46
			For Aluminum Liner, Add	205.76	
			For 304 Stainless Steel Liner, Add	280.58	
			For 2" Wall Instead Of 1", Add	1,151.45	
			For 3" To 4" Wall Instead Of 1", Add	1,741.73	
23 51 16 00-0092	EA		38" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	4,123.67	130.97
			For Aluminum Liner, Add	208.79	
			For 304 Stainless Steel Liner, Add	284.71	
			For 2" Wall Instead Of 1", Add	1,171.59	
			For 3" To 4" Wall Instead Of 1", Add	1,773.76	
23 51 16 00-0093	EA		40" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	4,500.51	149.74
			For Aluminum Liner, Add	226.94	
			For 304 Stainless Steel Liner, Add	309.47	
			For 2" Wall Instead Of 1", Add	1,275.29	
			For 3" To 4" Wall Instead Of 1", Add	1,931.65	
23 51 16 00-0094	EA		42" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	4,947.90	174.63
			For Aluminum Liner, Add	248.12	
			For 304 Stainless Steel Liner, Add	338.35	
			For 2" Wall Instead Of 1", Add	1,397.05	
			For 3" To 4" Wall Instead Of 1", Add	2,117.41	
23 51 16 00-0095	EA		44" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	5,387.18	196.46
			For Aluminum Liner, Add	269.30	
			For 304 Stainless Steel Liner, Add	367.23	
			For 2" Wall Instead Of 1", Add	1,518.00	
			For 3" To 4" Wall Instead Of 1", Add	2,301.54	
23 51 16 00-0096	EA		46" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	5,898.76	203.01
			For Aluminum Liner, Add	296.54	
			For 304 Stainless Steel Liner, Add	404.37	
			For 2" Wall Instead Of 1", Add	1,668.19	
			For 3" To 4" Wall Instead Of 1", Add	2,527.65	
23 51 16 00-0097	EA		48" Round Flue/Vent, Tee, Galvanized Double Wall Breech/Smoke Pipe.....	6,245.40	209.55
			For Aluminum Liner, Add	314.69	
			For 304 Stainless Steel Liner, Add	429.13	
			For 2" Wall Instead Of 1", Add	1,768.87	
			For 3" To 4" Wall Instead Of 1", Add	2,679.50	
23 51 16 00-0098			Vent Top Caps (23 51 16 00-0001)		
23 51 16 00-0099	EA		3" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	55.03	15.17
			For Aluminum Liner, Add	0.94	
			For 304 Stainless Steel Liner, Add	1.28	
			For 2" Wall Instead Of 1", Add	8.92	
			For 3" To 4" Wall Instead Of 1", Add	15.27	
23 51 16 00-0100	EA		4" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	57.66	15.94
			For Aluminum Liner, Add	0.99	
			For 304 Stainless Steel Liner, Add	1.35	
			For 2" Wall Instead Of 1", Add	9.35	
			For 3" To 4" Wall Instead Of 1", Add	16.02	
23 51 16 00-0101	EA		6" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	74.80	17.46
			For Aluminum Liner, Add	1.71	
			For 304 Stainless Steel Liner, Add	2.34	
			For 2" Wall Instead Of 1", Add	13.71	
			For 3" To 4" Wall Instead Of 1", Add	22.75	
23 51 16 00-0102	EA		8" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	79.60	19.42
			For Aluminum Liner, Add	1.71	
			For 304 Stainless Steel Liner, Add	2.34	
			For 2" Wall Instead Of 1", Add	14.19	
			For 3" To 4" Wall Instead Of 1", Add	23.71	
23 51 16 00-0103	EA		10" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	97.18	20.52
			For Aluminum Liner, Add	2.52	
			For 304 Stainless Steel Liner, Add	3.44	
			For 2" Wall Instead Of 1", Add	18.89	
			For 3" To 4" Wall Instead Of 1", Add	30.91	
23 51 16 00-0104	EA		12" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	115.09	21.83
			For Aluminum Liner, Add	3.33	
			For 304 Stainless Steel Liner, Add	4.54	
			For 2" Wall Instead Of 1", Add	23.61	
			For 3" To 4" Wall Instead Of 1", Add	38.15	
23 51 16 00-0105	EA		16" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe	274.69	24.88
			For Aluminum Liner, Add	11.68	
			For 304 Stainless Steel Liner, Add	15.93	
			For 2" Wall Instead Of 1", Add	69.94	
			For 3" To 4" Wall Instead Of 1", Add	108.03	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0106	EA		18" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	513.66	31.22
			For Aluminum Liner, Add	23.97	
			For 304 Stainless Steel Liner, Add	32.68	
			For 2" Wall Instead Of 1", Add	138.51	
			For 3" To 4" Wall Instead Of 1", Add	211.66	
23 51 16 00-0107	EA		20" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	951.79	37.44
			For Aluminum Liner, Add	47.20	
			For 304 Stainless Steel Liner, Add	64.37	
			For 2" Wall Instead Of 1", Add	266.83	
			For 3" To 4" Wall Instead Of 1", Add	404.92	
23 51 16 00-0108	EA		24" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	1,583.41	52.39
			For Aluminum Liner, Add	79.88	
			For 304 Stainless Steel Liner, Add	108.93	
			For 2" Wall Instead Of 1", Add	448.83	
			For 3" To 4" Wall Instead Of 1", Add	679.79	
23 51 16 00-0109	EA		26" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	2,338.44	55.12
			For Aluminum Liner, Add	121.04	
			For 304 Stainless Steel Liner, Add	165.05	
			For 2" Wall Instead Of 1", Add	673.97	
			For 3" To 4" Wall Instead Of 1", Add	1,017.85	
23 51 16 00-0110	EA		28" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	2,621.24	58.18
			For Aluminum Liner, Add	136.16	
			For 304 Stainless Steel Liner, Add	185.68	
			For 2" Wall Instead Of 1", Add	757.27	
			For 3" To 4" Wall Instead Of 1", Add	1,143.18	
23 51 16 00-0111	EA		30" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	2,959.98	61.66
			For Aluminum Liner, Add	154.32	
			For 304 Stainless Steel Liner, Add	210.44	
			For 2" Wall Instead Of 1", Add	857.16	
			For 3" To 4" Wall Instead Of 1", Add	1,293.45	
23 51 16 00-0112	EA		32" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	3,134.66	65.48
			For Aluminum Liner, Add	163.40	
			For 304 Stainless Steel Liner, Add	222.82	
			For 2" Wall Instead Of 1", Add	907.64	
			For 3" To 4" Wall Instead Of 1", Add	1,369.65	
23 51 16 00-0113	EA		34" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	3,310.61	69.85
			For Aluminum Liner, Add	172.48	
			For 304 Stainless Steel Liner, Add	235.19	
			For 2" Wall Instead Of 1", Add	958.25	
			For 3" To 4" Wall Instead Of 1", Add	1,446.10	
23 51 16 00-0114	EA		36" Round Flue/Vent Top Caps, Galvanized Double Wall Breech/Smoke Pipe.....	3,543.00	74.87
			For Aluminum Liner, Add	184.58	
			For 304 Stainless Steel Liner, Add	251.70	
			For 2" Wall Instead Of 1", Add	1,025.50	
			For 3" To 4" Wall Instead Of 1", Add	1,547.60	
23 51 16 00-0115			Wall Thimbles (23 51 16 00-0001)		
23 51 16 00-0116	EA		3" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe.....	22.35	8.19
			For Aluminum Liner, Add	0.11	
			For 304 Stainless Steel Liner, Add	0.15	
			For 2" Wall Instead Of 1", Add	2.63	
			For 3" To 4" Wall Instead Of 1", Add	4.96	
23 51 16 00-0117	EA		4" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe.....	28.31	10.48
			For Aluminum Liner, Add	0.11	
			For 304 Stainless Steel Liner, Add	0.15	
			For 2" Wall Instead Of 1", Add	3.23	
			For 3" To 4" Wall Instead Of 1", Add	6.16	
23 51 16 00-0118	EA		5" Or 6" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	37.67	14.08
			For Aluminum Liner, Add	0.14	
			For 304 Stainless Steel Liner, Add	0.18	
			For 2" Wall Instead Of 1", Add	4.26	
			For 3" To 4" Wall Instead Of 1", Add	8.15	
23 51 16 00-0119	EA		7" Or 8" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	47.17	17.46
			For Aluminum Liner, Add	0.19	
			For 304 Stainless Steel Liner, Add	0.26	
			For 2" Wall Instead Of 1", Add	5.42	
			For 3" To 4" Wall Instead Of 1", Add	10.31	
23 51 16 00-0120	EA		10" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe.....	67.94	23.57
			For Aluminum Liner, Add	0.50	
			For 304 Stainless Steel Liner, Add	0.68	
			For 2" Wall Instead Of 1", Add	8.60	
			For 3" To 4" Wall Instead Of 1", Add	15.84	
23 51 16 00-0121	EA		12" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe.....	85.89	29.26
			For Aluminum Liner, Add	0.70	
			For 304 Stainless Steel Liner, Add	0.96	
			For 2" Wall Instead Of 1", Add	11.14	
			For 3" To 4" Wall Instead Of 1", Add	20.37	
23 51 16 00-0122	EA		14" Or 16" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	108.95	34.93
			For Aluminum Liner, Add	1.19	
			For 304 Stainless Steel Liner, Add	1.62	
			For 2" Wall Instead Of 1", Add	15.22	
			For 3" To 4" Wall Instead Of 1", Add	27.20	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Breechings, Chimneys, and Stacks			23 51

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0123	EA		18" Or 20" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	142.40	41.48
			For Aluminum Liner, Add	2.13	
			For 304 Stainless Steel Liner, Add	2.90	
			For 2" Wall Instead Of 1", Add	21.98	
			For 3" To 4" Wall Instead Of 1", Add	38.16	
23 51 16 00-0124	EA		22" Or 24" Round Flue/Vent Wall Thimbles, Galvanized Double Wall Breech/Smoke Pipe	192.45	45.84
			For Aluminum Liner, Add	4.28	
			For 304 Stainless Steel Liner, Add	5.84	
			For 2" Wall Instead Of 1", Add	34.62	
			For 3" To 4" Wall Instead Of 1", Add	57.95	
23 51 16 00-0125 Adjustable Roof Flashing (23 51 16 00-0001)					
23 51 16 00-0126	EA		3" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	61.12	19.42
			For Aluminum Liner, Add	0.70	
			For 304 Stainless Steel Liner, Add	0.95	
			For 2" Wall Instead Of 1", Add	8.64	
			For 3" To 4" Wall Instead Of 1", Add	15.39	
23 51 16 00-0127	EA		4" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	67.68	20.52
			For Aluminum Liner, Add	0.90	
			For 304 Stainless Steel Liner, Add	1.22	
			For 2" Wall Instead Of 1", Add	10.02	
			For 3" To 4" Wall Instead Of 1", Add	17.61	
23 51 16 00-0128	EA		6" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	85.46	23.25
			For Aluminum Liner, Add	1.50	
			For 304 Stainless Steel Liner, Add	2.05	
			For 2" Wall Instead Of 1", Add	14.00	
			For 3" To 4" Wall Instead Of 1", Add	23.91	
23 51 16 00-0129	EA		8" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	104.42	26.85
			For Aluminum Liner, Add	2.05	
			For 304 Stainless Steel Liner, Add	2.80	
			For 2" Wall Instead Of 1", Add	17.90	
			For 3" To 4" Wall Instead Of 1", Add	30.21	
23 51 16 00-0130	EA		10" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	175.14	29.14
			For Aluminum Liner, Add	5.63	
			For 304 Stainless Steel Liner, Add	7.67	
			For 2" Wall Instead Of 1", Add	37.98	
			For 3" To 4" Wall Instead Of 1", Add	60.61	
23 51 16 00-0131	EA		12" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	209.18	31.76
			For Aluminum Liner, Add	7.14	
			For 304 Stainless Steel Liner, Add	9.74	
			For 2" Wall Instead Of 1", Add	46.89	
			For 3" To 4" Wall Instead Of 1", Add	74.30	
23 51 16 00-0132	EA		14" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	246.86	34.93
			For Aluminum Liner, Add	8.78	
			For 304 Stainless Steel Liner, Add	11.97	
			For 2" Wall Instead Of 1", Add	56.60	
			For 3" To 4" Wall Instead Of 1", Add	89.26	
23 51 16 00-0133	EA		16" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	295.20	38.86
			For Aluminum Liner, Add	10.89	
			For 304 Stainless Steel Liner, Add	14.85	
			For 2" Wall Instead Of 1", Add	69.13	
			For 3" To 4" Wall Instead Of 1", Add	108.56	
23 51 16 00-0134	EA		18" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	450.28	43.66
			For Aluminum Liner, Add	18.76	
			For 304 Stainless Steel Liner, Add	25.58	
			For 2" Wall Instead Of 1", Add	113.25	
			For 3" To 4" Wall Instead Of 1", Add	175.33	
23 51 16 00-0135	EA		20" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	493.22	58.18
			For Aluminum Liner, Add	19.12	
			For 304 Stainless Steel Liner, Add	26.08	
			For 2" Wall Instead Of 1", Add	118.86	
			For 3" To 4" Wall Instead Of 1", Add	185.57	
23 51 16 00-0136	EA		22" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	627.28	74.87
			For Aluminum Liner, Add	24.21	
			For 304 Stainless Steel Liner, Add	33.01	
			For 2" Wall Instead Of 1", Add	150.75	
			For 3" To 4" Wall Instead Of 1", Add	235.49	
23 51 16 00-0137	EA		24" Round Flue/Vent Adjustable Roof Flashing, Galvanized Double Wall Breech/Smoke Pipe	746.44	87.31
			For Aluminum Liner, Add	29.05	
			For 304 Stainless Steel Liner, Add	39.61	
			For 2" Wall Instead Of 1", Add	180.27	
			For 3" To 4" Wall Instead Of 1", Add	281.33	
23 51 16 00-0138 Galvanized Storm Collars (23 51 16 00-0001)					
23 51 16 00-0139	EA		3" Round Galvanized Storm Collar, Double Wall	24.05	8.19
			For Aluminum Liner, Add	0.20	
			For 304 Stainless Steel Liner, Add	0.27	
			For 2" Wall Instead Of 1", Add	3.14	
			For 3" To 4" Wall Instead Of 1", Add	5.72	
23 51 16 00-0140	EA		4" Round Galvanized Storm Collar, Double Wall	30.38	10.48
			For Aluminum Liner, Add	0.23	
			For 304 Stainless Steel Liner, Add	0.31	
			For 2" Wall Instead Of 1", Add	3.88	
			For 3" To 4" Wall Instead Of 1", Add	7.12	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0141	EA		5" Round Galvanized Storm Collar, Double Wall	35.78	12.22
			For Aluminum Liner, Add	0.29	
			For 304 Stainless Steel Liner, Add	0.39	
			For 2" Wall Instead Of 1", Add	4.62	
			For 3" To 4" Wall Instead Of 1", Add	8.46	
23 51 16 00-0142	EA		6" Round Galvanized Storm Collar, Double Wall	41.19	13.97
			For Aluminum Liner, Add	0.34	
			For 304 Stainless Steel Liner, Add	0.47	
			For 2" Wall Instead Of 1", Add	5.37	
			For 3" To 4" Wall Instead Of 1", Add	9.80	
23 51 16 00-0143	EA		7" Or 8" Round Galvanized Storm Collar, Double Wall	51.99	17.46
			For Aluminum Liner, Add	0.46	
			For 304 Stainless Steel Liner, Add	0.62	
			For 2" Wall Instead Of 1", Add	6.87	
			For 3" To 4" Wall Instead Of 1", Add	12.48	
23 51 16 00-0144	EA		10" Round Galvanized Storm Collar, Double Wall	72.00	23.57
			For Aluminum Liner, Add	0.72	
			For 304 Stainless Steel Liner, Add	0.98	
			For 2" Wall Instead Of 1", Add	9.81	
			For 3" To 4" Wall Instead Of 1", Add	17.67	
23 51 16 00-0145	EA		12" Round Galvanized Storm Collar, Double Wall	88.82	29.26
			For Aluminum Liner, Add	0.86	
			For 304 Stainless Steel Liner, Add	1.18	
			For 2" Wall Instead Of 1", Add	12.02	
			For 3" To 4" Wall Instead Of 1", Add	21.69	
23 51 16 00-0146	EA		14" Or 16" Round Galvanized Storm Collar, Double Wall	113.94	34.93
			For Aluminum Liner, Add	1.46	
			For 304 Stainless Steel Liner, Add	2.00	
			For 2" Wall Instead Of 1", Add	16.72	
			For 3" To 4" Wall Instead Of 1", Add	29.45	
23 51 16 00-0147	EA		18" Or 20" Round Galvanized Storm Collar, Double Wall	151.89	41.48
			For Aluminum Liner, Add	2.65	
			For 304 Stainless Steel Liner, Add	3.62	
			For 2" Wall Instead Of 1", Add	24.83	
			For 3" To 4" Wall Instead Of 1", Add	42.43	
23 51 16 00-0148	EA		22" Or 24" Round Galvanized Storm Collar, Double Wall	216.17	45.84
			For Aluminum Liner, Add	5.59	
			For 304 Stainless Steel Liner, Add	7.62	
			For 2" Wall Instead Of 1", Add	41.93	
			For 3" To 4" Wall Instead Of 1", Add	68.63	
23 51 16 00-0149			Oval Galvanized Double Wall Flue/Vent Pipe And Fittings (23 51 16)		
23 51 16 00-0150			Oval Galvanized Double Wall Flue/Vent Pipe (23 51 16 00-0149)		
23 51 16 00-0151	LF		4" Oval Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe	41.43	10.26
			For 2" Wall Instead Of 1", Add	7.30	
			For 3" To 4" Wall Instead Of 1", Add	12.23	
23 51 16 00-0152	LF		5" Oval Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe	45.81	10.91
			For 2" Wall Instead Of 1", Add	8.33	
			For 3" To 4" Wall Instead Of 1", Add	13.84	
23 51 16 00-0153	LF		6" Oval Flue/Vent Pipe, Galvanized Double Wall Breech/Smoke Pipe	50.86	11.68
			For 2" Wall Instead Of 1", Add	9.43	
			For 3" To 4" Wall Instead Of 1", Add	15.60	
23 51 16 00-0154			45 Degree Elbows (23 51 16 00-0149)		
23 51 16 00-0155	EA		4" Standard Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe	91.04	21.29
			For 2" Wall Instead Of 1", Add	16.66	
			For 3" To 4" Wall Instead Of 1", Add	27.66	
23 51 16 00-0156	EA		5" Standard Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe	106.22	24.88
			For 2" Wall Instead Of 1", Add	19.42	
			For 3" To 4" Wall Instead Of 1", Add	32.25	
23 51 16 00-0157	EA		6" Standard Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe	126.85	28.16
			For 2" Wall Instead Of 1", Add	23.97	
			For 3" To 4" Wall Instead Of 1", Add	39.48	
23 51 16 00-0158	EA		4" Flat Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe	92.93	21.29
			For 2" Wall Instead Of 1", Add	17.23	
			For 3" To 4" Wall Instead Of 1", Add	28.51	
23 51 16 00-0159	EA		5" Flat Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe	110.81	24.88
			For 2" Wall Instead Of 1", Add	20.80	
			For 3" To 4" Wall Instead Of 1", Add	34.31	
23 51 16 00-0160	EA		6" Flat Oval Flue/Vent 45 Elbow, Galvanized Double Wall Breech/Smoke Pipe	129.82	28.16
			For 2" Wall Instead Of 1", Add	24.86	
			For 3" To 4" Wall Instead Of 1", Add	40.81	
23 51 16 00-0161			Tees (23 51 16 00-0149)		
23 51 16 00-0162	EA		4" Standard Oval Flue/Vent Pipe Tee, Galvanized Double Wall Breech/Smoke Pipe	152.94	32.31
			For 2" Wall Instead Of 1", Add	29.71	
			For 3" To 4" Wall Instead Of 1", Add	48.61	
23 51 16 00-0163	EA		4" Short Snout Oval Flue/Vent Tee, Galvanized Double Wall Breech/Smoke Pipe	155.91	32.31
			For 2" Wall Instead Of 1", Add	30.60	
			For 3" To 4" Wall Instead Of 1", Add	49.95	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Breechings, Chimneys, and Stacks			23 51

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MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0164	EA		5" Standard Oval Flue/Vent Pipe Tee, Galvanized Double Wall Breech/Smoke Pipe For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add 23 51 16 00-0165 EA 6" Oval Flue/Vent Tee With Round Coupling, Galvanized Double Wall Breech/Smoke Pipe For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add 23 51 16 00-0166 Tops/Caps And Adjustable Flashing (23 51 16 00-0149) 23 51 16 00-0167 EA 4" Oval Flue/Vent Pipe Top/Cap, Galvanized Double Wall Breech/Smoke Pipe For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add 23 51 16 00-0168 EA 6" Oval Flue/Vent Pipe Top/Cap, Galvanized Double Wall Breech/Smoke Pipe For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add 23 51 16 00-0169 EA 4" Oval Flue/Vent Adjustable Flashing, Galvanized Double Wall Breech/Smoke Pipe For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add 23 51 16 00-0170 EA 6" Oval Flue/Vent Adjustable Flashing, Galvanized Double Wall Breech/Smoke Pipe For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add 23 51 16 00-0171 Storm Collars (23 51 16 00-0149) 23 51 16 00-0172 EA 4" Oval Galvanized Storm Collar, Double Wall For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add 23 51 16 00-0173 EA 5" Oval Galvanized Storm Collar, Double Wall For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add 23 51 16 00-0174 EA 6" Oval Galvanized Storm Collar, Double Wall For 2" Wall Instead Of 1", Add For 3" To 4" Wall Instead Of 1", Add 23 51 16 00-0175 Round Double Wall Flue/Vent Pipe And Fittings (23 51 16) Note: 304 Stainless steel inner wall and aluminum steel outer jacket, with 1" insulation. 23 51 16 00-0176 Round Double Wall Flue/Vent Pipe (23 51 16 00-0175) Note: 304 Stainless steel inner wall and aluminum steel outer jacket, with 1" insulation. 23 51 16 00-0177 LF 6" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket For 316 Stainless Steel, Add For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add 23 51 16 00-0178 LF 8" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket For 316 Stainless Steel, Add For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add 23 51 16 00-0179 LF 10" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket For 316 Stainless Steel, Add For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add 23 51 16 00-0180 LF 12" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket For 316 Stainless Steel, Add For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add 23 51 16 00-0181 LF 14" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket For 316 Stainless Steel, Add For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add 23 51 16 00-0182 LF 16" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket For 316 Stainless Steel, Add For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add 23 51 16 00-0183 LF 18" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket For 316 Stainless Steel, Add For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add 23 51 16 00-0184 LF 20" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket For 316 Stainless Steel, Add For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add 23 51 16 00-0185 LF 24" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket For 316 Stainless Steel, Add For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	179.18 35.20 57.44 205.21 40.77 66.36 58.97 12.43 19.96 92.59 20.74 32.86 47.36 8.95 14.74 81.65 17.45 27.94 30.38 3.88 7.12 35.78 4.62 8.46 41.19 5.37 9.80 109.21 12.81 8.01 16.01 131.36 15.64 9.77 19.55 145.83 17.52 10.95 21.90 164.49 19.97 12.48 24.96 185.24 22.98 14.37 28.73 195.62 24.30 15.19 30.38 216.74 27.32 17.07 34.15 268.25 31.27 19.55 39.09 333.85 40.32 25.20 50.39	37.11 41.59 10.48 14.08 10.48 14.08 10.48 12.22 13.97 11.68 13.43 14.52 15.83 16.59 17.46 18.45 29.14 32.74

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0186	LF		28" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	376.93	34.93
			For 316 Stainless Steel, Add	46.34	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	28.97	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	57.93	
23 51 16 00-0187	LF		32" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	421.89	38.75
			For 316 Stainless Steel, Add	52.00	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	32.50	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	64.99	
23 51 16 00-0188	LF		36" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	469.65	41.91
			For 316 Stainless Steel, Add	58.40	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	36.50	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	73.00	
23 51 16 00-0189	LF		42" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	536.15	47.69
			For 316 Stainless Steel, Add	66.69	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	41.68	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	83.36	
23 51 16 00-0190	LF		48" Round Flue/Vent Pipe, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	627.89	55.23
			For 316 Stainless Steel, Add	78.37	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	48.98	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	97.96	
23 51 16 00-0191			90 Degree Elbows (23 51 16 00-0175)		
23 51 16 00-0192	EA		6" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	514.75	24.12
			For 316 Stainless Steel, Add	90.90	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	45.45	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	90.90	
23 51 16 00-0193	EA		8" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	568.69	26.85
			For 316 Stainless Steel, Add	100.32	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	50.16	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	100.32	
23 51 16 00-0194	EA		10" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	647.42	29.14
			For 316 Stainless Steel, Add	114.92	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	57.46	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	114.92	
23 51 16 00-0195	EA		12" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	731.64	31.76
			For 316 Stainless Steel, Add	130.46	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	65.23	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	130.46	
23 51 16 00-0196	EA		14" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	848.50	33.29
			For 316 Stainless Steel, Add	153.06	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	76.53	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	153.06	
23 51 16 00-0197	EA		16" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	935.04	34.93
			For 316 Stainless Steel, Add	169.55	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	84.77	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	169.55	
23 51 16 00-0198	EA		18" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,080.92	36.78
			For 316 Stainless Steel, Add	197.81	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	98.90	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	197.81	
23 51 16 00-0199	EA		20" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,252.31	58.18
			For 316 Stainless Steel, Add	221.36	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	110.68	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	221.36	
23 51 16 00-0200	EA		24" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,541.30	65.48
			For 316 Stainless Steel, Add	275.52	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	137.76	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	275.52	
23 51 16 00-0201	EA		28" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,870.12	69.85
			For 316 Stainless Steel, Add	339.10	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	169.55	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	339.10	
23 51 16 00-0202	EA		32" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,471.23	74.76
			For 316 Stainless Steel, Add	456.84	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	228.42	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	456.84	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Breechings, Chimneys, and Stacks			23 51

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0203	EA		36" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,808.62	87.31
			For 316 Stainless Steel, Add	518.07	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	259.03	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	518.07	
23 51 16 00-0204	EA		42" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	4,123.56	95.28
			For 316 Stainless Steel, Add	777.10	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	388.55	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	777.10	
23 51 16 00-0205	EA		48" Round Flue/Vent, 90 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	5,148.24	104.78
			For 316 Stainless Steel, Add	977.26	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	488.63	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	977.26	
23 51 16 00-0206			45 Degree Elbows (23 51 16 00-0175)		
23 51 16 00-0207	EA		6" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	343.12	23.25
			For 316 Stainless Steel, Add	56.99	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	28.49	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	56.99	
23 51 16 00-0208	EA		8" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	392.08	26.85
			For 316 Stainless Steel, Add	64.99	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	32.50	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	64.99	
23 51 16 00-0209	EA		10" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	435.46	29.14
			For 316 Stainless Steel, Add	72.53	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	36.27	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	72.53	
23 51 16 00-0210	EA		12" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	496.17	31.76
			For 316 Stainless Steel, Add	83.36	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	41.68	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	83.36	
23 51 16 00-0211	EA		14" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	558.85	33.29
			For 316 Stainless Steel, Add	95.14	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	47.57	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	95.14	
23 51 16 00-0212	EA		16" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	626.56	34.93
			For 316 Stainless Steel, Add	107.85	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	53.93	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	107.85	
23 51 16 00-0213	EA		18" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	701.79	36.78
			For 316 Stainless Steel, Add	121.98	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	60.99	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	121.98	
23 51 16 00-0214	EA		20" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	842.57	58.18
			For 316 Stainless Steel, Add	139.41	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	69.70	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	139.41	
23 51 16 00-0215	EA		24" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,058.57	65.48
			For 316 Stainless Steel, Add	178.97	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	89.48	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	178.97	
23 51 16 00-0216	EA		28" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,187.21	69.85
			For 316 Stainless Steel, Add	202.52	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	101.26	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	202.52	
23 51 16 00-0217	EA		32" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,541.07	74.76
			For 316 Stainless Steel, Add	270.81	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	135.40	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	270.81	
23 51 16 00-0218	EA		36" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,043.29	87.31
			For 316 Stainless Steel, Add	365.00	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	182.50	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	365.00	
23 51 16 00-0219	EA		42" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,710.66	95.28
			For 316 Stainless Steel, Add	494.52	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	247.26	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	494.52	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0220	EA		48" Round Flue/Vent, 45 Degree Elbow, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	3,617.61	104.78
			For 316 Stainless Steel, Add.....	671.13	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	335.57	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	671.13	
23 51 16 00-0221 Tees (23 51 16 00-0175)					
23 51 16 00-0222	EA		6" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	371.91	29.14
			For 316 Stainless Steel, Add.....	65.80	
			For Tee Cap, Add.....	85.31	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	29.91	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	59.81	
23 51 16 00-0223	EA		8" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	423.16	31.76
			For 316 Stainless Steel, Add.....	75.64	
			For Tee Cap, Add.....	96.53	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	34.38	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	68.76	
23 51 16 00-0224	EA		10" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	485.83	33.29
			For 316 Stainless Steel, Add.....	88.59	
			For Tee Cap, Add.....	109.64	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	40.27	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	80.54	
23 51 16 00-0225	EA		12" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	558.26	34.93
			For 316 Stainless Steel, Add.....	103.61	
			For Tee Cap, Add.....	124.75	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	47.10	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	94.19	
23 51 16 00-0226	EA		14" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	652.76	38.86
			For 316 Stainless Steel, Add.....	122.26	
			For Tee Cap, Add.....	145.11	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	55.57	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	111.15	
23 51 16 00-0227	EA		16" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	733.10	43.66
			For 316 Stainless Steel, Add.....	137.29	
			For Tee Cap, Add.....	162.98	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	62.40	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	124.81	
23 51 16 00-0228	EA		18" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	854.64	49.88
			For 316 Stainless Steel, Add.....	160.60	
			For Tee Cap, Add.....	189.62	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	73.00	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	146.00	
23 51 16 00-0229	EA		20" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	978.28	61.66
			For 316 Stainless Steel, Add.....	181.32	
			For Tee Cap, Add.....	218.77	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	82.42	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	164.84	
23 51 16 00-0230	EA		24" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,242.65	87.31
			For 316 Stainless Steel, Add.....	225.36	
			For Tee Cap, Add.....	281.27	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	102.44	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	204.87	
23 51 16 00-0231	EA		28" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,509.69	95.28
			For 316 Stainless Steel, Add.....	279.76	
			For Tee Cap, Add.....	337.65	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	127.16	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	254.32	
23 51 16 00-0232	EA		32" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	2,004.52	104.78
			For 316 Stainless Steel, Add.....	383.37	
			For Tee Cap, Add.....	440.20	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	174.26	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	348.52	
23 51 16 00-0233	EA		36" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	2,233.95	116.46
			For 316 Stainless Steel, Add.....	427.41	
			For Tee Cap, Add.....	490.47	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	194.28	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	388.55	
23 51 16 00-0234	EA		42" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	3,556.75	174.63
			For 316 Stainless Steel, Add.....	686.44	
			For Tee Cap, Add.....	776.84	
			For 2" Insulated Wall Instead Of 1" Thickness, Add.....	312.02	
			For 3" Insulated Wall Instead Of 1" Thickness, Add.....	624.03	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Breechings, Chimneys, and Stacks			23 51

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0235	EA		48" Round Flue/Vent, Tee, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	4,468.29	209.55
			For 316 Stainless Steel, Add	867.76	
			For Tee Cap, Add	972.26	
			For 2" Insulated Wall Instead Of 1" Thickness, Add	394.44	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	788.87	
23 51 16 00-0236 Bellows (23 51 16 00-0175)					
23 51 16 00-0237	EA		6" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	703.41	23.25
			For 2" Insulated Wall Instead Of 1" Thickness, Add	64.52	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	129.05	
23 51 16 00-0238	EA		8" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	766.50	26.85
			For 2" Insulated Wall Instead Of 1" Thickness, Add	69.94	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	139.88	
23 51 16 00-0239	EA		10" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	838.16	29.14
			For 2" Insulated Wall Instead Of 1" Thickness, Add	76.53	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	153.06	
23 51 16 00-0240	EA		12" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	927.09	31.76
			For 2" Insulated Wall Instead Of 1" Thickness, Add	84.77	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	169.55	
23 51 16 00-0241	EA		14" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,036.88	33.29
			For 2" Insulated Wall Instead Of 1" Thickness, Add	95.37	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	190.74	
23 51 16 00-0242	EA		16" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,146.98	34.93
			For 2" Insulated Wall Instead Of 1" Thickness, Add	105.97	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	211.94	
23 51 16 00-0243	EA		18" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,281.09	36.78
			For 2" Insulated Wall Instead Of 1" Thickness, Add	118.92	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	237.84	
23 51 16 00-0244	EA		20" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,487.78	58.18
			For 2" Insulated Wall Instead Of 1" Thickness, Add	134.23	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	268.45	
23 51 16 00-0245	EA		24" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,835.68	65.48
			For 2" Insulated Wall Instead Of 1" Thickness, Add	167.19	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	334.39	
23 51 16 00-0246	EA		28" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	2,058.53	69.85
			For 2" Insulated Wall Instead Of 1" Thickness, Add	188.39	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	376.77	
23 51 16 00-0247	EA		32" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	2,353.61	74.87
			For 2" Insulated Wall Instead Of 1" Thickness, Add	216.65	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	433.29	
23 51 16 00-0248	EA		36" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	2,690.90	87.31
			For 2" Insulated Wall Instead Of 1" Thickness, Add	247.26	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	494.52	
23 51 16 00-0249	EA		42" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	3,417.13	95.28
			For 2" Insulated Wall Instead Of 1" Thickness, Add	317.90	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	635.81	
23 51 16 00-0250	EA		48" Round Flue/Vent, Bellows, Lined, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	4,147.45	104.78
			For 2" Insulated Wall Instead Of 1" Thickness, Add	388.55	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	777.10	
23 51 16 00-0251 Ventilated Roof Thimbles (23 51 16 00-0175)					
23 51 16 00-0252	EA		6" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	467.48	26.85
			For 316 Stainless Steel, Add	40.03	
23 51 16 00-0253	EA		8" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	507.93	31.76
			For 316 Stainless Steel, Add	42.86	
23 51 16 00-0254	EA		10" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	555.89	34.93
			For 316 Stainless Steel, Add	46.86	
23 51 16 00-0255	EA		12" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	601.01	38.86
			For 316 Stainless Steel, Add	50.39	
23 51 16 00-0256	EA		14" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	764.46	41.14
			For 316 Stainless Steel, Add	66.17	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0257	EA	16" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	683.70	43.66
		<i>For 316 Stainless Steel, Add</i>	57.46	
23 51 16 00-0258	EA	18" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	735.79	46.60
		<i>For 316 Stainless Steel, Add</i>	61.93	
23 51 16 00-0259	EA	20" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	827.81	65.48
		<i>For 316 Stainless Steel, Add</i>	66.41	
23 51 16 00-0260	EA	24" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	928.69	74.76
		<i>For 316 Stainless Steel, Add</i>	74.18	
23 51 16 00-0261	EA	28" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,060.89	80.55
		<i>For 316 Stainless Steel, Add</i>	85.95	
23 51 16 00-0262	EA	32" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,183.64	87.20
		<i>For 316 Stainless Steel, Add</i>	96.55	
23 51 16 00-0263	EA	36" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,321.47	104.67
		<i>For 316 Stainless Steel, Add</i>	105.97	
23 51 16 00-0264	EA	42" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,692.05	116.35
		<i>For 316 Stainless Steel, Add</i>	140.11	
23 51 16 00-0265	EA	48" Round Flue/Vent, Ventilated Roof Thimble, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	2,093.34	130.86
		<i>For 316 Stainless Steel, Add</i>	176.61	
23 51 16 00-0266 Exit Cones (23 51 16 00-0175)				
23 51 16 00-0267	EA	6" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	322.95	15.17
23 51 16 00-0268	EA	8" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	340.66	16.59
23 51 16 00-0269	EA	10" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	366.26	17.46
23 51 16 00-0270	EA	12" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	382.69	18.34
23 51 16 00-0271	EA	14" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	421.60	18.88
23 51 16 00-0272	EA	16" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	460.52	19.32
23 51 16 00-0273	EA	18" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	558.50	19.98
23 51 16 00-0274	EA	20" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	698.75	37.44
23 51 16 00-0275	EA	24" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	877.83	40.28
23 51 16 00-0276	EA	28" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,046.73	41.91
23 51 16 00-0277	EA	32" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,286.57	43.66
23 51 16 00-0278	EA	36" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,461.37	47.69
23 51 16 00-0279	EA	42" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,843.82	49.88
23 51 16 00-0280	EA	48" Round Flue/Vent, Exit Cone, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	2,356.31	52.39
23 51 16 00-0281 Vent Top Caps (23 51 16 00-0175)				
23 51 16 00-0282	EA	6" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	353.47	15.17
23 51 16 00-0283	EA	8" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	408.95	16.59
23 51 16 00-0284	EA	10" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	474.56	17.46
23 51 16 00-0285	EA	12" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	545.16	18.34
23 51 16 00-0286	EA	14" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	635.85	18.88
23 51 16 00-0287	EA	16" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	721.97	19.42
23 51 16 00-0288	EA	18" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	803.44	19.98
23 51 16 00-0289	EA	20" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	964.75	37.44
23 51 16 00-0290	EA	24" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,148.64	40.28
23 51 16 00-0291	EA	28" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,246.82	41.91
23 51 16 00-0292	EA	32" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket.....	1,416.02	43.66



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0293	EA		36" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,649.63	47.59
23 51 16 00-0294	EA		42" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,008.57	49.88
23 51 16 00-0295	EA		48" Round Flue/Vent Top Caps, 316 Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,332.68	52.39
23 51 16 00-0296			Roof Support Assemblies (23 51 16 00-0175)		
23 51 16 00-0297	EA		6" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	533.66	27.95
			For 316 Stainless Steel, Add	92.78	
23 51 16 00-0298	EA		8" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	589.46	33.29
			For 316 Stainless Steel, Add	101.26	
23 51 16 00-0299	EA		10" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	647.58	36.78
			For 316 Stainless Steel, Add	111.15	
23 51 16 00-0300	EA		12" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	691.37	41.04
			For 316 Stainless Steel, Add	117.74	
23 51 16 00-0301	EA		14" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	770.85	43.66
			For 316 Stainless Steel, Add	132.34	
23 51 16 00-0302	EA		16" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	818.18	46.60
			For 316 Stainless Steel, Add	140.35	
23 51 16 00-0303	EA		18" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	878.40	49.99
			For 316 Stainless Steel, Add	150.71	
23 51 16 00-0304	EA		20" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	975.28	69.85
			For 316 Stainless Steel, Add	160.13	
23 51 16 00-0305	EA		24" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,096.36	80.65
			For 316 Stainless Steel, Add	178.97	
23 51 16 00-0306	EA		28" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,266.20	87.31
			For 316 Stainless Steel, Add	209.58	
23 51 16 00-0307	EA		32" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,509.71	95.28
			For 316 Stainless Steel, Add	254.32	
23 51 16 00-0308	EA		36" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	1,751.20	116.46
			For 316 Stainless Steel, Add	292.00	
23 51 16 00-0309	EA		42" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	2,611.61	130.97
			For 316 Stainless Steel, Add	456.84	
23 51 16 00-0310	EA		48" Round Flue/Vent, Roof Support Assembly, Stainless Steel/Aluminum Flue/Vent Pipe, Stainless Steel Inner Wall/Aluminum Steel Outer Jacket	3,198.06	148.88
			For 316 Stainless Steel, Add	565.16	
23 51 16 00-0311			Round Stainless Steel Double Wall Flue/Vent Pipe And Fittings (23 51 16)		
			Note: With 1" insulation.		
23 51 16 00-0312			Round Stainless Steel Double Wall Flue/Vent Pipe (23 51 16 00-0311)		
			Note: With 1" insulation.		
23 51 16 00-0313	LF		6" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	95.09	11.68
			For 2" Insulated Wall Instead Of 1" Thickness, Add	6.59	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	13.19	
23 51 16 00-0314	LF		7" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	115.97	12.44
			For 2" Insulated Wall Instead Of 1" Thickness, Add	8.48	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	16.95	
23 51 16 00-0315	LF		8" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	132.53	13.43
			For 2" Insulated Wall Instead Of 1" Thickness, Add	9.89	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	19.78	
23 51 16 00-0316	LF		10" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	179.94	14.52
			For 2" Insulated Wall Instead Of 1" Thickness, Add	14.37	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	28.73	
23 51 16 00-0317	LF		12" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	232.83	15.94
			For 2" Insulated Wall Instead Of 1" Thickness, Add	19.31	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	38.62	
23 51 16 00-0318	LF		14" Round Flue/Vent Pipe, Stainless Steel Flue/Vent Pipe	296.00	16.70
			For 2" Insulated Wall Instead Of 1" Thickness, Add	25.43	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	50.86	
23 51 16 00-0319			90 Degree Elbows (23 51 16 00-0311)		
23 51 16 00-0320	EA		6" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe	205.40	23.25
			For 2" Insulated Wall Instead Of 1" Thickness, Add	14.72	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	29.44	
23 51 16 00-0321	EA		7" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe	227.16	24.88
			For 2" Insulated Wall Instead Of 1" Thickness, Add	16.48	
			For 3" Insulated Wall Instead Of 1" Thickness, Add	32.97	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0322 EA 8" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	255.54 18.84 37.68	26.85
23 51 16 00-0323 EA 10" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	317.71 24.49 48.98	29.14
23 51 16 00-0324 EA 12" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	378.43 29.91 59.81	31.76
23 51 16 00-0325 EA 14" Round Flue/Vent, 90 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	441.06 35.79 71.59	33.29
23 51 16 00-0326 45 Degree Elbows (23 51 16 00-0311)		
23 51 16 00-0327 EA 6" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	166.60 11.04 22.08	23.25
23 51 16 00-0328 EA 7" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	185.94 12.36 24.73	24.88
23 51 16 00-0329 EA 8" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	208.45 14.13 28.26	26.85
23 51 16 00-0330 EA 10" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	256.48 18.37 36.74	29.14
23 51 16 00-0331 EA 12" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	303.64 22.43 44.86	31.76
23 51 16 00-0332 EA 14" Round Flue/Vent, 45 Degree Elbow, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	351.62 26.85 53.69	33.29
23 51 16 00-0333 Tees With Tee Caps (23 51 16 00-0311)		
23 51 16 00-0334 EA 6" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	336.03 27.79 55.57	23.25
23 51 16 00-0335 EA 7" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	424.97 36.27 72.53	24.88
23 51 16 00-0336 EA 8" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	476.86 40.97 81.95	26.85
23 51 16 00-0337 EA 10" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	649.67 57.69 115.39	29.14
23 51 16 00-0338 EA 12" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	891.74 81.24 162.48	31.76
23 51 16 00-0339 EA 14" Round Flue/Vent, Tee, Stainless Steel Flue/Vent Pipe For 2" Insulated Wall Instead Of 1" Thickness, Add For 3" Insulated Wall Instead Of 1" Thickness, Add	1,142.77 105.97 211.94	33.29
23 51 16 00-0340 Joist Shields (23 51 16 00-0311)		
23 51 16 00-0341 EA 6" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe 23 51 16 00-0342 EA 7" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe 23 51 16 00-0343 EA 8" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe 23 51 16 00-0344 EA 10" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe 23 51 16 00-0345 EA 12" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe 23 51 16 00-0346 EA 14" Round Flue/Vent, Joist Shield, Stainless Steel Flue/Vent Pipe	142.95 154.16 180.15 224.73 268.91 318.60	23.25 24.88 26.85 29.14 31.76 33.29
23 51 16 00-0347 Adjustable Roof Flashing (23 51 16 00-0311)		
23 51 16 00-0348 EA 6" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe 23 51 16 00-0349 EA 7" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe 23 51 16 00-0350 EA 8" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe 23 51 16 00-0351 EA 10" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe 23 51 16 00-0352 EA 12" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe 23 51 16 00-0353 EA 14" Round Flue/Vent, Adjustable Roof Flashing, Stainless Steel Flue/Vent Pipe	170.03 189.47 206.05 250.61 309.02 370.37	23.25 24.88 26.85 29.14 31.76 33.18
23 51 16 00-0354 Vent Top Caps (23 51 16 00-0311)		
23 51 16 00-0355 EA 6" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe 23 51 16 00-0356 EA 7" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe 23 51 16 00-0357 EA 8" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe 23 51 16 00-0358 EA 10" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe 23 51 16 00-0359 EA 12" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe 23 51 16 00-0360 EA 14" Round Flue/Vent Top Caps, Stainless Steel Flue/Vent Pipe	152.37 190.65 239.02 381.33 519.77 662.43	23.25 24.88 26.85 29.14 31.76 33.29



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Breechings, Chimneys, and Stacks			23 51

MINOR		TOTAL DIRECT		DEMOLITION	
CSI UOM DESCRIPTION		UNIT COST		UNIT COST	
23 51 16 00-0361 Roof Support Assemblies (23 51 16 00-0311)					
23 51 16 00-0362	EA	6" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	226.46		23.25
23 51 16 00-0363	EA	7" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	251.87		24.88
23 51 16 00-0364	EA	8" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	273.15		26.85
23 51 16 00-0365	EA	10" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	343.57		29.14
23 51 16 00-0366	EA	12" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	406.68		31.76
23 51 16 00-0367	EA	14" Round Flue/Vent, Roof Support Assembly, Stainless Steel Flue/Vent Pipe	497.59		33.29
23 51 16 00-0368 Polyvinyl Chloride (PVC) Flue/Vent Accessories (23 51 16)					
23 51 16 00-0369 Concentric Polyvinyl Chloride (PVC) Vent Termination (23 51 16 00-0365)					
23 51 16 00-0370	EA	2" Concentric Polyvinyl Chloride (PVC) Vent Termination	236.76		44.44
23 51 16 00-0371	EA	3" Concentric Polyvinyl Chloride (PVC) Vent Termination	257.89		44.44
23 51 16 00-0372 Polypropylene (PP) Flue/Vent Pipe And Fittings (23 51 16)					
Note: Centrotherm InnoFlue® Vent System					
23 51 16 00-0373 Polypropylene Flue/Vent Rigid Pipe Sections (23 51 16 00-0372)					
Note: Gasketed rigid single wall polypropylene vent lengths with dedicated male and female ends.					
23 51 16 00-0374	EA	2" x 12" Polypropylene Flue/Vent Rigid Pipe Section	42.12		13.50
23 51 16 00-0375	EA	2" x 24" Polypropylene Flue/Vent Rigid Pipe Section	48.31		14.21
23 51 16 00-0376	EA	2" x 36" Polypropylene Flue/Vent Rigid Pipe Section	55.56		15.80
23 51 16 00-0377	EA	2" x 72" Polypropylene Flue/Vent Rigid Pipe Section	69.38		18.58
23 51 16 00-0378	EA	3" x 12" Polypropylene Flue/Vent Rigid Pipe Section	50.91		15.47
23 51 16 00-0379	EA	3" x 24" Polypropylene Flue/Vent Rigid Pipe Section	62.35		16.30
23 51 16 00-0380	EA	3" x 36" Polypropylene Flue/Vent Rigid Pipe Section	77.22		18.10
23 51 16 00-0381	EA	3" x 72" Polypropylene Flue/Vent Rigid Pipe Section	95.91		21.30
23 51 16 00-0382	EA	4" x 12" Polypropylene Flue/Vent Rigid Pipe Section	86.08		20.47
23 51 16 00-0383	EA	4" x 24" Polypropylene Flue/Vent Rigid Pipe Section	102.65		21.55
23 51 16 00-0384	EA	4" x 36" Polypropylene Flue/Vent Rigid Pipe Section	128.71		23.95
23 51 16 00-0385	EA	4" x 72" Polypropylene Flue/Vent Rigid Pipe Section	167.85		28.17
23 51 16 00-0386	EA	5" x 12" Polypropylene Flue/Vent Rigid Pipe Section	127.73		30.22
23 51 16 00-0387	EA	5" x 24" Polypropylene Flue/Vent Rigid Pipe Section	147.10		31.80
23 51 16 00-0388	EA	5" x 36" Polypropylene Flue/Vent Rigid Pipe Section	193.53		35.34
23 51 16 00-0389	EA	5" x 72" Polypropylene Flue/Vent Rigid Pipe Section	253.20		41.59
23 51 16 00-0390 Polypropylene Flue/Vent Elbows (23 51 16 00-0372)					
Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.					
23 51 16 00-0391	EA	2" Polypropylene Flue/Vent 15 Degree Elbow	52.17		16.40
23 51 16 00-0392	EA	3" Polypropylene Flue/Vent 15 Degree Elbow	61.75		17.27
23 51 16 00-0393	EA	4" Polypropylene Flue/Vent 15 Degree Elbow	78.48		17.90
23 51 16 00-0394	EA	5" Polypropylene Flue/Vent 15 Degree Elbow	91.93		18.63
23 51 16 00-0395	EA	2" Polypropylene Flue/Vent 30 Degree Elbow	52.17		16.40
23 51 16 00-0396	EA	3" Polypropylene Flue/Vent 30 Degree Elbow	61.75		17.27
23 51 16 00-0397	EA	4" Polypropylene Flue/Vent 30 Degree Elbow	78.48		17.90
23 51 16 00-0398	EA	5" Polypropylene Flue/Vent 30 Degree Elbow	91.93		18.63
23 51 16 00-0399	EA	2" Polypropylene Flue/Vent 45 Degree Elbow	52.17		16.40
23 51 16 00-0400	EA	3" Polypropylene Flue/Vent 45 Degree Elbow	61.75		17.27
23 51 16 00-0401	EA	4" Polypropylene Flue/Vent 45 Degree Elbow	78.48		17.90
23 51 16 00-0402	EA	5" Polypropylene Flue/Vent 45 Degree Elbow	91.93		18.63
23 51 16 00-0403	EA	2" Polypropylene Flue/Vent 87 Degree Elbow	52.17		16.40
23 51 16 00-0404	EA	3" Polypropylene Flue/Vent 87 Degree Elbow	61.75		17.27
23 51 16 00-0405	EA	4" Polypropylene Flue/Vent 87 Degree Elbow	77.43		17.90
23 51 16 00-0406	EA	5" Polypropylene Flue/Vent 87 Degree Elbow	94.52		18.63
23 51 16 00-0407 Polypropylene Flue/Vent Tees (23 51 16 00-0372)					
Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.					
23 51 16 00-0408	EA	2" Polypropylene Flue/Vent Tee	171.97		24.61
23 51 16 00-0409	EA	3" Polypropylene Flue/Vent Tee	217.91		25.91
23 51 16 00-0410	EA	4" Polypropylene Flue/Vent Tee	257.03		26.85
23 51 16 00-0411	EA	5" Polypropylene Flue/Vent Tee	281.75		27.95
23 51 16 00-0412 Polypropylene Flue/Vent Adaptors (23 51 16 00-0372)					
Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.					
23 51 16 00-0413	EA	2" Polypropylene Flue/Vent Adaptor With Gasket	62.40		16.40
23 51 16 00-0414	EA	3" Polypropylene Flue/Vent Adaptor With Gasket	91.54		17.27
23 51 16 00-0415	EA	4" Polypropylene Flue/Vent Adaptor With Gasket	107.32		17.90
23 51 16 00-0416	EA	5" Polypropylene Flue/Vent Adaptor With Gasket	148.31		18.63
23 51 16 00-0417 Polypropylene Flue/Vent Increases (23 51 16 00-0372)					
Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.					
23 51 16 00-0418	EA	2" to 3" Polypropylene Flue/Vent Centric Increaser	69.61		16.84
23 51 16 00-0419	EA	3" to 4" Polypropylene Flue/Vent Centric Increaser	76.52		17.58
23 51 16 00-0420	EA	4" to 5" Polypropylene Flue/Vent Centric Increaser	142.16		18.26
23 51 16 00-0421	EA	2" to 3" Polypropylene Flue/Vent Eccentric Increaser	95.86		16.84

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 51 Breechings, Chimneys, and Stacks**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0422 EA 3" to 4" Polypropylene Flue/Vent Eccentric Increaser.....	74.38	17.58
23 51 16 00-0423 EA 4" to 5" Polypropylene Flue/Vent Eccentric Increaser.....	198.22	18.26
23 51 16 00-0424 Polypropylene Flue/Vent Reducers (23 51 16 00-0372) Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.		
23 51 16 00-0425 EA 3" to 2" Polypropylene Flue/Vent Reducer.....	69.61	16.84
23 51 16 00-0426 EA 4" to 3" Polypropylene Flue/Vent Reducer.....	76.52	17.58
23 51 16 00-0427 EA 5" to 4" Polypropylene Flue/Vent Reducer.....	177.11	18.26
23 51 16 00-0428 Polypropylene Flue/Vent Test Ports (23 51 16 00-0372) Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.		
23 51 16 00-0429 EA 2" Polypropylene Flue/Vent Test Port.....	87.19	24.61
23 51 16 00-0430 EA 3" Polypropylene Flue/Vent Test Port.....	98.38	25.91
23 51 16 00-0431 EA 4" Polypropylene Flue/Vent Test Port.....	154.91	26.85
23 51 16 00-0432 EA 5" Polypropylene Flue/Vent Test Port.....	165.65	27.95
23 51 16 00-0433 Polypropylene Flue/Vent Cascade Components (23 51 16 00-0372) Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.		
23 51 16 00-0434 EA 4" x 15" Polypropylene Flue/Vent Branch Tee With 4" Feeder.....	261.73	26.85
23 51 16 00-0435 EA 4" x 42" Polypropylene Flue/Vent Branch Tee With 4" Feeder.....	343.31	33.56
23 51 16 00-0436 EA 5" x 12" Polypropylene Flue/Vent Branch Tee With 4" Feeder.....	213.31	27.95
23 51 16 00-0437 EA 5" x 42" Polypropylene Flue/Vent Branch Tee With 4" Feeder.....	318.15	34.93
23 51 16 00-0438 EA 3" to 4" Polypropylene Flue/Vent Non-Return Valve.....	339.71	17.58
23 51 16 00-0439 EA 4" to 4" Polypropylene Flue/Vent Non-Return Valve.....	393.99	18.26
23 51 16 00-0440 Polypropylene Flue/Vent Condensate Management (23 51 16 00-0372) Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.		
23 51 16 00-0441 EA 2" Polypropylene Flue/Vent Horizontal Drain Tee.....	122.63	24.61
23 51 16 00-0442 EA 3" Polypropylene Flue/Vent Horizontal Drain Tee.....	149.50	25.91
23 51 16 00-0443 EA 4" Polypropylene Flue/Vent Horizontal Drain Tee.....	172.18	26.85
23 51 16 00-0444 EA 5" Polypropylene Flue/Vent Horizontal Drain Tee.....	197.36	27.95
23 51 16 00-0445 EA 4" Polypropylene Flue/Vent Horizontal Drain Fittings.....	220.13	26.85
23 51 16 00-0446 EA 5" Polypropylene Flue/Vent Horizontal Drain Fittings.....	243.25	27.95
23 51 16 00-0447 EA 2" Polypropylene Flue/Vent Tee Cap.....	72.68	8.21
23 51 16 00-0448 EA 3" Polypropylene Flue/Vent Tee Cap.....	93.94	8.63
23 51 16 00-0449 EA 4" Polypropylene Flue/Vent Tee Cap.....	112.08	8.95
23 51 16 00-0450 EA 5" Polypropylene Flue/Vent Tee Cap.....	147.17	9.31
23 51 16 00-0451 EA 2" Polypropylene Flue/Vent Tee Cap With Drain.....	137.97	24.61
23 51 16 00-0452 EA 3" Polypropylene Flue/Vent Tee Cap With Drain.....	170.77	25.91
23 51 16 00-0453 EA 4" Polypropylene Flue/Vent Tee Cap With Drain.....	198.56	26.85
23 51 16 00-0454 EA 5" Polypropylene Flue/Vent Tee Cap With Drain.....	240.73	27.95
23 51 16 00-0455 Polypropylene Flue/Vent Terminations (23 51 16 00-0372)		
23 51 16 00-0456 EA 2" Polypropylene-UV Black Flue/Vent Chimney Cover.....	184.55	16.40
23 51 16 00-0457 EA 3" Polypropylene-UV Black Flue/Vent Chimney Cover.....	161.87	17.27
23 51 16 00-0458 EA 4" Polypropylene-UV Black Flue/Vent Chimney Cover.....	203.81	17.90
23 51 16 00-0459 EA 3" Stainless Steel Chimney Cover With Polypropylene-UV Black End Pipe.....	422.77	17.27
23 51 16 00-0460 EA 4" Stainless Steel Chimney Cover With Polypropylene-UV Black End Pipe.....	451.61	17.90
23 51 16 00-0461 EA 5" Stainless Steel Chimney Cover With Polypropylene-UV Black End Pipe.....	527.94	18.63
23 51 16 00-0462 EA 2" 1/4" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	106.73	16.40
23 51 16 00-0463 EA 2" 1/5" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	113.30	16.40
23 51 16 00-0464 EA 2" 1/6" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	119.88	16.40
23 51 16 00-0465 EA 2" 1/7" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	126.45	16.40
23 51 16 00-0466 EA 3" 1/4" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	115.47	17.27
23 51 16 00-0467 EA 3" 1/5" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	122.05	17.27
23 51 16 00-0468 EA 3" 1/6" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	128.62	17.27
23 51 16 00-0469 EA 3" 1/7" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	135.19	17.27
23 51 16 00-0470 EA 4" 1/5" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	130.19	17.90
23 51 16 00-0471 EA 4" 1/6" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	136.76	17.90
23 51 16 00-0472 EA 4" 1/7" Polypropylene-UV Black Flue/Vent B-Vent Chimney Cover Rain Collar.....	143.33	17.90
23 51 16 00-0473 EA 2" Polypropylene-UV Black Flue/Vent Low Profile Wall Termination.....	113.24	16.40
23 51 16 00-0474 EA 3" Polypropylene-UV Black Flue/Vent Low Profile Wall Termination.....	146.36	17.27
23 51 16 00-0475 EA 2" Polypropylene-UV Black Flue/Vent Termination Tee.....	129.75	24.61
23 51 16 00-0476 EA 3" Polypropylene-UV Black Flue/Vent Termination Tee.....	173.08	25.91
23 51 16 00-0477 EA 4" Polypropylene-UV Black Flue/Vent Termination Tee.....	205.91	26.85
23 51 16 00-0478 EA 5" Polypropylene-UV Black Flue/Vent Termination Tee.....	227.42	27.95
23 51 16 00-0479 EA 2" x 20" Polypropylene-UV Black Flue/Vent End Pipe.....	44.31	14.21
23 51 16 00-0480 EA 2" x 39" Polypropylene-UV Black Flue/Vent End Pipe.....	53.45	15.80
23 51 16 00-0481 EA 3" x 20" Polypropylene-UV Black Flue/Vent End Pipe.....	53.60	16.30
23 51 16 00-0482 EA 3" x 39" Polypropylene-UV Black Flue/Vent End Pipe.....	67.75	18.10
23 51 16 00-0483 EA 4" x 20" Polypropylene-UV Black Flue/Vent End Pipe.....	81.97	21.55
23 51 16 00-0484 EA 5" x 20" Polypropylene-UV Black Flue/Vent End Pipe.....	112.42	31.80
23 51 16 00-0485 EA 5" x 39" Polypropylene-UV Black Flue/Vent End Pipe.....	137.35	35.34
23 51 16 00-0486 EA 2" x 24" Polypropylene-UV Black Flue/Vent Vent Length.....	49.58	14.21
23 51 16 00-0487 EA 3" x 24" Polypropylene-UV Black Flue/Vent Vent Length.....	64.52	16.30
23 51 16 00-0488 EA 4" x 24" Polypropylene-UV Black Flue/Vent Vent Length.....	107.52	21.55



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 51 16 00-0489	EA	2" Polypropylene-UV Black Flue/Vent 45 Degree Elbow	54.26	16.40
23 51 16 00-0490	EA	3" Polypropylene-UV Black Flue/Vent 45 Degree Elbow	64.38	17.27
23 51 16 00-0491	EA	4" Polypropylene-UV Black Flue/Vent 45 Degree Elbow	81.84	17.90
23 51 16 00-0492	EA	2" Polypropylene-UV Black Flue/Vent 87 Degree Elbow	53.27	16.40
23 51 16 00-0493	EA	3" Polypropylene-UV Black Flue/Vent 87 Degree Elbow	63.72	17.27
23 51 16 00-0494	EA	4" Polypropylene-UV Black Flue/Vent 87 Degree Elbow	80.69	17.90
23 51 16 00-0495	EA	2" Polypropylene-UV Black Bird Screen For Polypropylene Flue/Vent	35.67	8.21
23 51 16 00-0496	EA	3" Polypropylene-UV Black Bird Screen For Polypropylene Flue/Vent	41.90	8.63
23 51 16 00-0497	EA	4" Polypropylene-UV Black Bird Screen For Polypropylene Flue/Vent	47.21	8.95
23 51 16 00-0498	EA	3" Stainless Steel Bird Screen For Polypropylene Flue/Vent	95.75	9.63
23 51 16 00-0499	EA	5" Stainless Steel Bird Screen For Polypropylene Flue/Vent	110.25	9.31
23 51 16 00-0500 Polypropylene Flue/Vent Accessories (23 51 16 00-0372)				
23 51 16 00-0501	EA	2" Spacer For Polypropylene Flue/Vent	8.20	4.10
23 51 16 00-0502	EA	3" Spacer For Polypropylene Flue/Vent	17.18	4.32
23 51 16 00-0503	EA	4" Spacer For Polypropylene Flue/Vent	17.69	4.47
23 51 16 00-0504	EA	5" Spacer For Polypropylene Flue/Vent	28.84	4.66
23 51 16 00-0505	EA	2" Flue Clamp For Polypropylene Flue/Vent	34.98	6.16
23 51 16 00-0506	EA	3" Flue Clamp For Polypropylene Flue/Vent	41.38	6.47
23 51 16 00-0507	EA	4" Flue Clamp For Polypropylene Flue/Vent	48.31	6.71
23 51 16 00-0508	EA	2" Support Clamp For Polypropylene Flue/Vent	33.15	6.16
23 51 16 00-0509	EA	4" Support Clamp For Polypropylene Flue/Vent	32.84	6.71
23 51 16 00-0510	EA	5" Support Clamp For Polypropylene Flue/Vent	40.49	6.98
23 51 16 00-0511	EA	3" Plastic Support Clamp For Polypropylene Flue/Vent	24.61	6.47
23 51 16 00-0512	EA	2" Polypropylene-UV Black Wall Plate For Polypropylene Flue/Vent	47.63	16.40
23 51 16 00-0513	EA	3" Polypropylene-UV Black Wall Plate For Polypropylene Flue/Vent	52.84	17.27
23 51 16 00-0514	EA	4" Polypropylene-UV Black Wall Plate For Polypropylene Flue/Vent	57.17	17.90
23 51 16 00-0515	EA	5" Polypropylene-UV Black Wall Plate For Polypropylene Flue/Vent	64.38	18.63
23 51 16 00-0516	EA	2" Single Wall EDPM Gasket For Polypropylene Flue/Vent	4.22	
23 51 16 00-0517	EA	3" Single Wall EDPM Gasket For Polypropylene Flue/Vent	4.72	
23 51 16 00-0518	EA	4" Single Wall EDPM Gasket For Polypropylene Flue/Vent	6.39	
23 51 16 00-0519	EA	5" Single Wall EDPM Gasket For Polypropylene Flue/Vent	10.55	
23 51 16 00-0520	EA	2" Connector Ring For Polypropylene Flue/Vent	14.78	4.10
23 51 16 00-0521	EA	3" Connector Ring For Polypropylene Flue/Vent	16.86	4.32
23 51 16 00-0522	EA	4" Connector Ring For Polypropylene Flue/Vent	18.23	4.47
23 51 16 00-0523	EA	5" Connector Ring For Polypropylene Flue/Vent	20.27	4.66
23 51 16 00-0524	EA	2 1/4" Polypropylene Flue/Vent Air Intake, White	79.27	8.21
23 51 16 00-0525	EA	3 1/5" Polypropylene Flue/Vent Air Intake, White	81.17	8.63
23 51 16 00-0526	EA	4 1/6" Polypropylene Flue/Vent Air Intake, White	59.28	8.95
23 51 16 00-0527	EA	2" Base Support For Polypropylene Flue/Vent	69.31	6.16
23 51 16 00-0528	EA	3" Base Support For Polypropylene Flue/Vent	71.43	6.47
23 51 16 00-0529	EA	4" Base Support For Polypropylene Flue/Vent	96.70	6.71
23 51 16 00-0530	EA	5" Base Support For Polypropylene Flue/Vent	165.66	6.98
23 51 16 00-0531 Polypropylene Flue/Vent Flex Pipe (23 51 16 00-0372)				
23 51 16 00-0532	LF	2", Up To 50', Polypropylene Flue/Vent Flex Pipe	12.38	1.44
23 51 16 00-0533	LF	2", > 50', Polypropylene Flue/Vent Flex Pipe	10.63	1.44
23 51 16 00-0534	LF	3", Up To 50', Polypropylene Flue/Vent Flex Pipe	15.24	1.70
23 51 16 00-0535	LF	3", > 50', Polypropylene Flue/Vent Flex Pipe	13.04	1.70
23 51 16 00-0536	LF	4", Up To 50', Polypropylene Flue/Vent Flex Pipe	22.12	2.10
23 51 16 00-0537	LF	4", > 50', Polypropylene Flue/Vent Flex Pipe	18.74	2.10
23 51 16 00-0538 Polypropylene Flue/Vent Couplers (23 51 16 00-0372)				
Note: Gasketed rigid single wall polypropylene vent fittings with dedicated male and female ends.				
23 51 16 00-0539	EA	2" Polypropylene Flue/Vent Coupler, Single Wall to Flex	84.56	16.40
23 51 16 00-0540	EA	2" Polypropylene Flue/Vent Coupler, Flex to Single Wall	95.53	16.40
23 51 16 00-0541	EA	3" Polypropylene Flue/Vent Coupler, Flex to Single Wall	201.24	17.27
23 51 16 00-0542	EA	4" Polypropylene Flue/Vent Coupler, Flex to Single Wall	373.36	17.90
23 51 16 00-0543	EA	2" Polypropylene Flue/Vent Coupler, Flex to Flex	98.77	16.40
23 51 16 00-0544	EA	3" Polypropylene Flue/Vent Coupler, Flex to Flex	241.33	17.27
23 51 16 00-0545	EA	4" Polypropylene Flue/Vent Coupler, Flex to Flex	636.24	17.90
23 51 16 00-0546 Polypropylene Flue/Vent Flex End Terminations (23 51 16 00-0372)				
23 51 16 00-0547	EA	2" Polypropylene-UV Black Flue/Vent Flex End Pipe Termination	113.33	16.40
23 51 16 00-0548	EA	3" Polypropylene-UV Black Flue/Vent Flex End Pipe Termination	103.83	17.27
23 51 16 00-0549	EA	4" Polypropylene-UV Black Flue/Vent Flex End Pipe Termination	129.83	17.90
23 51 16 00-0550 Aluminum Flue/Vent Fittings (23 51 16)				
23 51 16 00-0551 Aluminum Vent Top Caps (23 51 16 00-0550)				
23 51 16 00-0552	EA	3" Aluminum Vent Cap (Star-Kap® 3-SK)	108.41	16.26
23 51 16 00-0553	EA	4" Aluminum Vent Cap (Star-Kap® 4-SK)	115.43	15.94
23 51 16 00-0554	EA	5" Aluminum Vent Cap (Star-Kap® 5-SK)	125.43	16.70
23 51 16 00-0555	EA	6" Aluminum Vent Cap (Star-Kap® 6-SK)	177.75	17.46
23 51 16 00-0556	EA	8" Aluminum Vent Cap (Star-Kap® 8-SK)	198.86	19.42
23 51 16 00-0557	EA	10" Aluminum Vent Cap (Star-Kap® 10-SK)	584.29	20.52

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment**

23 51 Breechings, Chimneys, and Stacks

MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 51 16 00-0558 EA 12" Aluminum Vent Cap (Star-Kap® 12-SK).....598.44 21.83

23 52 Heating Boilers (23 50)**23 52 13 Electric Boilers** (23 52)**23 52 13 00-0001 Packaged Electric Steam Boiler** (23 52 13)

Note: Includes burners, standard controls and safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.) Rated by KW and MBH gross rated output.

23 52 13 00-0002	EA	12 KW, 42 MBH Electric Steam Boiler With Packaged Standard Controls	8,020.66	615.98
23 52 13 00-0003	EA	24 KW, 84 MBH Electric Steam Boiler With Packaged Standard Controls	8,659.36	718.64
23 52 13 00-0004	EA	36 KW, 126 MBH Electric Steam Boiler With Packaged Standard Controls	9,292.27	769.97
23 52 13 00-0005	EA	48 KW, 168 MBH Electric Steam Boiler With Packaged Standard Controls	10,343.68	821.31
23 52 13 00-0006	EA	60 KW, 210 MBH Electric Steam Boiler With Packaged Standard Controls	11,369.80	872.64
23 52 13 00-0007	EA	80 KW, 280 MBH Electric Steam Boiler With Packaged Standard Controls	13,270.97	975.30
23 52 13 00-0008	EA	100 KW, 350 MBH Electric Steam Boiler With Packaged Standard Controls	15,172.24	1,077.97
23 52 13 00-0009	EA	120 KW, 420 MBH Electric Steam Boiler With Packaged Standard Controls	15,789.61	1,129.30
23 52 13 00-0010	EA	140 KW, 490 MBH Electric Steam Boiler With Packaged Standard Controls	16,629.56	1,180.63
23 52 13 00-0011	EA	160 KW, 560 MBH Electric Steam Boiler With Packaged Standard Controls	21,737.45	1,283.28
23 52 13 00-0012	EA	180 KW, 630 MBH Electric Steam Boiler With Packaged Standard Controls	22,653.85	1,334.62
23 52 13 00-0013	EA	200 KW, 700 MBH Electric Steam Boiler With Packaged Standard Controls	24,007.37	1,526.45
23 52 13 00-0014	EA	220 KW, 770 MBH Electric Steam Boiler With Packaged Standard Controls	25,006.07	1,639.52
23 52 13 00-0015	EA	240 KW, 840 MBH Electric Steam Boiler With Packaged Standard Controls	26,973.17	1,752.59
23 52 13 00-0016	EA	260 KW, 910 MBH Electric Steam Boiler With Packaged Standard Controls	29,048.35	1,922.20
23 52 13 00-0017	EA	280 KW, 980 MBH Electric Steam Boiler With Packaged Standard Controls	30,894.51	1,978.73
23 52 13 00-0018	EA	300 KW, 1,050 MBH Electric Steam Boiler With Packaged Standard Controls	32,387.78	2,035.27
23 52 13 00-0019	EA	320 KW, 1,120 MBH Electric Steam Boiler With Packaged Standard Controls	34,448.08	2,091.80
23 52 13 00-0020	EA	360 KW, 1,260 MBH Electric Steam Boiler With Packaged Standard Controls	36,508.94	2,148.34
23 52 13 00-0021	EA	400 KW, 1,400 MBH Electric Steam Boiler With Packaged Standard Controls	39,063.42	2,261.41
23 52 13 00-0022	EA	460 KW, 1,610 MBH Electric Steam Boiler With Packaged Standard Controls	41,697.05	2,374.48
23 52 13 00-0023	EA	500 KW, 1,750 MBH Electric Steam Boiler With Packaged Standard Controls	44,274.15	2,431.01
23 52 13 00-0024	EA	600 KW, 2,100 MBH Electric Steam Boiler With Packaged Standard Controls	49,032.35	2,487.55
23 52 13 00-0025	EA	700 KW, 2,450 MBH Electric Steam Boiler With Packaged Standard Controls	52,807.54	2,600.63
23 52 13 00-0026	EA	756 KW, 2,646 MBH Electric Steam Boiler With Packaged Standard Controls	54,084.78	2,713.70
23 52 13 00-0027	EA	828 KW, 2,898 MBH Electric Steam Boiler With Packaged Standard Controls	59,430.70	2,883.30
23 52 13 00-0028	EA	936 KW, 3,276 MBH Electric Steam Boiler With Packaged Standard Controls	61,374.93	3,052.91
23 52 13 00-0029	EA	1,008 KW, 3,528 MBH Electric Steam Boiler With Packaged Standard Controls	63,432.24	3,222.51
23 52 13 00-0030	EA	1,116 KW, 3,906 MBH Electric Steam Boiler With Packaged Standard Controls	67,342.74	3,392.12
23 52 13 00-0031	EA	1,224 KW, 4,284 MBH Electric Steam Boiler With Packaged Standard Controls	69,083.28	3,505.19
23 52 13 00-0032	EA	1,368 KW, 4,788 MBH Electric Steam Boiler With Packaged Standard Controls	71,366.31	3,731.33
23 52 13 00-0033	EA	1,440 KW, 5,040 MBH Electric Steam Boiler With Packaged Standard Controls	73,807.72	3,957.47
23 52 13 00-0034	EA	1,512 KW, 5,292 MBH Electric Steam Boiler With Packaged Standard Controls	80,589.06	4,183.61
23 52 13 00-0035	EA	1,620 KW, 5,670 MBH Electric Steam Boiler With Packaged Standard Controls	84,951.84	4,409.76

23 52 13 00-0036 Packaged Electric Hot Water Boiler (23 52 13)

Note: Flush jacketed steel shell. Includes burners, and safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.). Rated by KW and MBH gross rated output.

23 52 13 00-0037	EA	9 KW, 31 MBH, Electric Hot Boiler With Packaged Standard Controls	7,042.55	564.64
23 52 13 00-0038	EA	12 KW, 41 MBH, Electric Hot Boiler With Packaged Standard Controls	7,416.89	615.98
23 52 13 00-0039	EA	18 KW, 61 MBH, Electric Hot Boiler With Packaged Standard Controls	7,791.23	667.31
23 52 13 00-0040	EA	24 KW, 82 MBH, Electric Hot Boiler With Packaged Standard Controls	8,155.29	718.64
23 52 13 00-0041	EA	36 KW, 123 MBH, Electric Hot Boiler With Packaged Standard Controls	8,576.14	769.97
23 52 13 00-0042	EA	48 KW, 164 MBH, Electric Hot Boiler With Packaged Standard Controls	8,884.97	821.31
23 52 13 00-0043	EA	60 KW, 205 MBH Electric Hot Boiler With Packaged Standard Controls	9,259.31	872.64
23 52 13 00-0044	EA	72 KW, 246 MBH Electric Hot Boiler With Packaged Standard Controls	9,820.83	923.97
23 52 13 00-0045	EA	84 KW, 287 MBH Electric Hot Boiler With Packaged Standard Controls	10,316.29	975.30
23 52 13 00-0046	EA	90 KW, 307 MBH Electric Hot Boiler With Packaged Standard Controls	10,615.76	1,026.63
23 52 13 00-0047	EA	105 KW, 358 MBH Electric Hot Boiler With Packaged Standard Controls	11,401.29	1,077.97
23 52 13 00-0048	EA	120 KW, 409 MBH Electric Hot Boiler With Packaged Standard Controls	12,143.01	1,129.30
23 52 13 00-0049	EA	135 KW, 461 MBH Electric Hot Boiler With Packaged Standard Controls	13,485.98	1,180.63
23 52 13 00-0050	EA	150 KW, 512 MBH Electric Hot Boiler With Packaged Standard Controls	14,365.73	1,231.96
23 52 13 00-0051	EA	165 KW, 563 MBH Electric Hot Boiler With Packaged Standard Controls	15,102.77	1,283.28
23 52 13 00-0052	EA	180 KW, 614 MBH Electric Hot Boiler With Packaged Standard Controls	16,389.42	1,334.62
23 52 13 00-0053	EA	195 KW, 665 MBH Electric Hot Boiler With Packaged Standard Controls	18,112.14	1,526.45
23 52 13 00-0054	EA	225 KW, 768 MBH Electric Hot Boiler With Packaged Standard Controls	19,460.53	1,639.52
23 52 13 00-0055	EA	240 KW, 819 MBH Electric Hot Boiler With Packaged Standard Controls	20,931.35	1,752.59
23 52 13 00-0056	EA	270 KW, 921 MBH Electric Hot Boiler With Packaged Standard Controls	22,392.80	1,922.20
23 52 13 00-0057	EA	300 KW, 1,024 MBH Electric Hot Boiler With Packaged Standard Controls	23,863.62	2,035.27
23 52 13 00-0058	EA	330 KW, 1,126 MBH Electric Hot Boiler With Packaged Standard Controls	25,242.02	2,148.34
23 52 13 00-0059	EA	360 KW, 1,228 MBH Electric Hot Boiler With Packaged Standard Controls	27,185.76	2,204.87
23 52 13 00-0060	EA	390 KW, 1,331 MBH Electric Hot Boiler With Packaged Standard Controls	28,966.18	2,261.41
23 52 13 00-0061	EA	420 KW, 1,433 MBH Electric Hot Boiler With Packaged Standard Controls	30,671.73	2,374.48
23 52 13 00-0062	EA	450 KW, 1,535 MBH Electric Hot Boiler With Packaged Standard Controls	32,459.81	2,374.48
23 52 13 00-0063	EA	504 KW, 1,720 MBH Electric Hot Boiler With Packaged Standard Controls	35,550.10	2,431.01
23 52 13 00-0064	EA	612 KW, 2,088 MBH Electric Hot Boiler With Packaged Standard Controls	37,191.99	2,487.55
23 52 13 00-0065	EA	684 KW, 2,334 MBH Electric Hot Boiler With Packaged Standard Controls	39,273.60	2,600.63
23 52 13 00-0066	EA	720 KW, 2,457 MBH Electric Hot Boiler With Packaged Standard Controls	40,837.23	2,657.16
23 52 13 00-0067	EA	750 KW, 2,559 MBH Electric Hot Boiler With Packaged Standard Controls	42,406.64	2,713.70



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Central Heating Equipment

23 50

Heating Boilers

23 52

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 13 00-0068 EA 810 KW, 2,764 MBH Electric Hot Boiler With Packaged Standard Controls.....	43,586.73	2,883.30
23 52 13 00-0069 EA 900 KW, 3,071 MBH Electric Hot Boiler With Packaged Standard Controls.....	45,715.66	3,052.91
23 52 13 00-0070 EA 1,020 KW, 3,480 MBH Electric Hot Boiler With Packaged Standard Controls.....	53,164.69	3,222.51
23 52 13 00-0071 EA 1,110 KW, 3,787 MBH Electric Hot Boiler With Packaged Standard Controls.....	58,318.46	3,392.12
23 52 13 00-0072 EA 1,200 KW, 4,094 MBH Electric Hot Boiler With Packaged Standard Controls.....	60,567.90	3,505.19
23 52 13 00-0073 EA 1350 KW, 4,606 MBH Electric Hot Boiler With Packaged Standard Controls.....	63,077.13	3,731.33
23 52 13 00-0074 EA 1,440 KW, 4,913 MBH Electric Hot Boiler With Packaged Standard Controls.....	65,586.36	3,957.47
23 52 13 00-0075 EA 1,560 KW, 5,323 MBH Electric Hot Boiler With Packaged Standard Controls.....	72,663.69	4,183.61
23 52 13 00-0076 EA 1,680 KW, 5,732 MBH Electric Hot Boiler With Packaged Standard Controls.....	77,233.71	4,409.76
23 52 13 00-0077 EA 1,740 KW, 5,937 MBH Electric Hot Boiler With Packaged Standard Controls.....	79,181.43	4,522.83
23 52 13 00-0078 EA 1,800 KW, 6,142 MBH Electric Hot Boiler With Packaged Standard Controls.....	81,129.15	4,635.90
23 52 13 00-0079 EA 1,980 KW, 6,756 MBH Electric Hot Boiler With Packaged Standard Controls.....	81,581.44	4,805.50
23 52 13 00-0080 EA 2,100 KW, 7,165 MBH Electric Hot Boiler With Packaged Standard Controls.....	87,574.72	4,918.57
23 52 13 00-0081 EA 2,220 KW, 7,575 MBH Electric Hot Boiler With Packaged Standard Controls.....	91,583.23	5,088.17
23 52 13 00-0082 EA 2,600 KW, 8,871 MBH Electric Hot Boiler With Packaged Standard Controls.....	98,329.04	5,427.38
23 52 13 00-0083 EA 2,960 KW, 10,100 MBH Electric Hot Boiler With Packaged Standard Controls.....	105,998.88	5,992.74
23 52 13 00-0084 EA 3,240 KW, 11,055 MBH Electric Hot Boiler With Packaged Standard Controls.....	114,834.58	6,671.16
23 52 13 00-0085 EA 3,360 KW, 11,464 MBH Electric Hot Boiler With Packaged Standard Controls.....	121,580.39	7,349.58
23 52 16 Condensing Boilers (23 52)		
23 52 16 13 Stainless-Steel Condensing Boilers (23 52 16)		
23 52 16 13-0001 Hamilton Evo Series Stainless Steel Condensing Boilers (23 52 16 13)		
Note: Includes circulating pump, mounting rack, disconnect panel, plumbing and gas manifold, manual reset high limit and LWCO (Cal Code). Rated by gross rated output.		
23 52 16 13-0002 EA 75 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW79).....	12,372.11	410.66
23 52 16 13-0003 EA 127 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW129).....	13,059.16	546.99
23 52 16 13-0004 EA 168 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW179).....	13,920.54	615.87
23 52 16 13-0005 EA 187 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW199.1).....	14,757.09	650.16
23 52 16 13-0006 EA 281 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW299).....	19,498.58	752.83
23 52 16 13-0007 EA 374 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW399).....	22,579.10	821.20
23 52 16 13-0008 EA 589 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW599).....	30,531.94	958.06
23 52 16 13-0009 EA 785 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW798).....	42,489.40	1,095.01
Note: Includes vent manifold.		
23 52 16 13-0010 EA 980 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW998).....	51,988.45	1,197.66
Note: Includes vent manifold.		
23 52 16 13-0011 EA 1,425 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW1499).....	75,123.01	1,402.89
23 52 16 13-0012 EA 1,900 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Hamilton Evo HW1999).....	82,793.69	1,505.55
23 52 16 13-0013 Buderus SB615 Stainless Steel Condensing Boilers (23 52 16 13)		
Note: Includes Riello burners. Rated by gross rated output.		
23 52 16 13-0014 EA 484 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/145).....	40,170.84	889.68
23 52 16 13-0015 EA 612 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/185).....	42,020.27	958.06
23 52 16 13-0016 EA 791 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/240).....	47,087.59	1,095.01
23 52 16 13-0017 EA 1,022 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/310).....	50,786.45	1,231.85
23 52 16 13-0018 EA 1,317 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/400).....	56,209.40	1,334.52
23 52 16 13-0019 EA 1,459 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/510).....	64,388.57	1,402.89
23 52 16 13-0020 EA 2,104 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB615/640).....	77,678.78	1,505.55
23 52 16 13-0021 Buderus SB735 Stainless Steel Condensing Boilers (23 52 16 13)		
Note: Includes Riello burners. Rated by gross rated output.		
23 52 16 13-0022 EA 2,650 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB735/790).....	77,362.50	1,642.41
23 52 16 13-0023 EA 3,254 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB735/970).....	89,640.27	1,710.88
23 52 16 13-0024 EA 4,079 MBH Water, Gas Fired, Stainless Steel Condensing Boiler (Buderus SB735/1200).....	103,928.14	1,779.36
23 52 16 13-0025 Laars Neotherm Stainless Steel Condensing Boiler (23 52 16 13)		
Note: Compliant with SCAQMD. Rated by gross rated input.		
23 52 16 13-0026 EA 80 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH080).....	7,910.37	444.84
23 52 16 13-0027 EA 105 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH105).....	9,029.43	513.31
23 52 16 13-0028 EA 150 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH150).....	10,113.60	615.87
23 52 16 13-0029 EA 210 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH210).....	11,263.53	684.35
23 52 16 13-0030 EA 285 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH285).....	14,179.29	752.83
23 52 16 13-0031 EA 399 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH399).....	18,538.22	821.20
23 52 16 13-0032 EA 500 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH500).....	22,279.89	889.68
23 52 16 13-0033 EA 600 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH600).....	24,735.62	958.06
23 52 16 13-0034 EA 750 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH750).....	26,869.85	1,026.53
23 52 16 13-0035 EA 850 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH850).....	29,209.43	1,163.37
23 52 16 13-0036 EA 1,000 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH1000).....	41,602.25	1,231.85
23 52 16 13-0037 EA 1,700 MBH, Gas Fired, Stainless Steel, Condensing Boiler (Laars Neotherm NTH1700).....	55,323.41	1,437.18
23 52 16 13-0038 EA 150 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV150).....	18,397.11	615.87
23 52 16 13-0039 EA 199 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV199).....	21,383.84	821.31
23 52 16 13-0040 EA 285 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV285).....	28,024.94	923.97
23 52 16 13-0041 EA 399 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV399).....	35,199.65	1,129.30
23 52 16 13-0042 EA 500 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV500).....	41,611.27	1,231.96
23 52 16 13-0043 EA 600 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV600).....	47,068.06	1,334.62
23 52 16 13-0044 EA 750 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV750).....	56,538.62	1,437.28
23 52 16 13-0045 EA 850 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV850).....	62,671.74	1,539.95

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 16 13-0046	EA	1,000 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV1000).....	82,509.53	1,642.61
23 52 16 13-0047	EA	1,700 MBH Gas Fired Condensing Volume Water Heater (Laars Neotherm NTV1700).....	110,925.99	2,155.92
23 52 16 13-0048		AERCO Benchmark Stainless-Steel Condensing Boilers (23 52 16 13)		
		Note: Rated by gross rated output.		
23 52 16 13-0049	EA	1,500 MBH Water, 120 Volt, 1 Phase, Gas Fired, Stainless Steel Condensing Boiler (AERCO BMK1.5LN).....	65,379.78	1,402.89
		Note: Includes gas PRV and pump delay relay.		
23 52 16 13-0050	EA	2,000 MBH Water, 120 Volt, 1 Phase, Gas Fired, Stainless Steel Condensing Boiler (AERCO BMK2.0LN).....	77,818.84	1,505.55
		Note: Includes gas PRV and pump delay relay.		
23 52 16 13-0051	EA	3,000 MBH Water, 220 Volt, 1 Phase, 230 Volt, 3 Phase, Gas Fired, Stainless Steel Condensing Boiler (AERCO BMK3000).....	112,607.83	1,676.70
		Note: Includes gas PRV and pump delay relay.		
23 52 16 13-0052	EA	3,000 MBH Water, 480 Volt, 3 Phase, Gas Fired, Stainless Steel Condensing Boiler (AERCO BMK3000).....	120,142.19	1,676.70
		Note: Includes gas PRV and pump delay relay.		
23 52 16 13-0053		Lochinvar Knight Stainless Steel Condensing Boilers (23 52 16 13)		
		Note: Rated by gross rated output.		
23 52 16 13-0054	EA	184 MBH 95% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight KBN211).....	10,965.78	615.87
23 52 16 13-0055	EA	264 MBH 95% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight KHB285N).....	14,192.03	684.35
23 52 16 13-0056		Lochinvar Knight XL Stainless Steel Condensing Boilers (23 52 16 13)		
		Note: Rated by gross rated output.		
23 52 16 13-0057	EA	387 MBH 97% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight XL KBX0400N).....	16,117.15	787.02
23 52 16 13-0058	EA	485 MBH 97% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight XL KBX0500N).....	20,097.57	821.20
23 52 16 13-0059	EA	631 MBH 97% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight XL KBX0650N).....	24,667.97	889.68
23 52 16 13-0060	EA	776 MBH 97% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight XL KBX0800N).....	29,585.11	923.87
23 52 16 13-0061	EA	969 MBH 97% Efficient, Gas Fired, Stainless Steel Heat Exchanger, Condensing Boiler (Lochinvar Knight XL KBX1000N).....	36,181.58	992.34
23 52 16 13-0062		Lochinvar Crest Stainless Steel Condensing Boilers (23 52 16 13)		
		Note: Rated by gross rated output.		
23 52 16 13-0063	EA	1,203 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN1251).....	45,861.64	1,163.17
23 52 16 13-0064	EA	1,443 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN1501).....	47,330.28	1,334.52
23 52 16 13-0065	EA	1,684 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN1751).....	51,888.59	1,419.83
23 52 16 13-0066	EA	1,923 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN2001).....	56,446.90	1,505.55
23 52 16 13-0067	EA	2,400 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN2501).....	66,236.89	1,574.03
23 52 16 13-0068	EA	2,883 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN3001).....	73,390.32	1,642.41
23 52 16 13-0069	EA	3,364 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN3501).....	90,190.77	1,710.88
23 52 16 13-0070	EA	3,843 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN4001).....	99,659.02	1,779.26
23 52 16 13-0071	EA	4,804 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Lochinvar Crest FBN5001).....	122,291.64	1,847.63
23 52 16 13-0072		Patterson Kelley Stainless Steel Condensing Boilers (23 52 16 13)		
23 52 16 13-0073		Patterson Kelley Stainless Steel Condensing Boilers, SOLIS® Series (23 52 16 13-0072)		
23 52 16 13-0074	EA	1,500 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Patterson-Kelley SOLIS® SL-1500).....	46,956.55	1,402.89
23 52 16 13-0075	EA	3,000 MBH 96% Efficient, Gas Fired, Stainless Steel Firetube, Condensing Boiler (Patterson-Kelley SOLIS® SL-3000).....	72,330.72	1,676.70
23 52 16 13-0076		Patterson Kelley Stainless Steel Condensing Boilers, SONIC® Series (23 52 16 13-0072)		
23 52 16 13-0077	EA	650 MBH 97% Efficient, Gas Fired, Dual Fuel, Stainless Steel Condensing Boiler (Patterson-Kelley SONIC® SC-650 SCD-650).....	24,399.82	992.34
23 52 16 13-0078	EA	1,000 MBH 97% Efficient, Gas Fired, Dual Fuel, Stainless Steel Condensing Boiler (Patterson-Kelley SONIC® SC-1000 SCD-1000).....	29,324.74	1,231.85
23 52 16 13-0079	EA	2,000 MBH 97% Efficient, Gas Fired, Dual Fuel, Stainless Steel Condensing Boiler (Patterson-Kelley SONIC® SC-2000).....	49,905.69	1,505.55
23 52 16 13-0080	EA	4,000 MBH 97% Efficient, Gas Fired, Dual Fuel, Stainless Steel Condensing Boiler (Patterson-Kelley SONIC® SC-4000).....	85,942.22	1,779.36
23 52 16 13-0081		Patterson Kelley Stainless Steel Condensing Boilers, STORM® Series (23 52 16 13-0072)		
23 52 16 13-0082	EA	1,250 MBH 97% Efficient, Gas Fired, Stainless Steel Condensing Boiler (Patterson-Kelley STORM® ST1250).....	35,790.54	1,300.23
23 52 16 13-0083	EA	2,000 MBH 97% Efficient, Gas Fired, Stainless Steel Condensing Boiler (Patterson-Kelley STORM® ST2000).....	59,100.77	1,505.55
23 52 16 13-0084	EA	4,000 MBH 97% Efficient, Gas Fired, Stainless Steel Condensing Boiler (Patterson-Kelley STORM® ST4000).....	87,898.62	1,779.36

23 52 16 16 Aluminum Condensing Boilers (23 52 16)



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Heating Boilers			23 52

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 16 16-0001			Weil McLain Aluminum Condensing Boilers (23 52 16 16) Note: Rated by gross rated output.		
23 52 16 16-0002	EA		80 MBH Water Gas Fired Condensing Boiler (Weil McLain Ultra 80)..... Note: Aluminum block with stainless steel burner. Includes boiler inline circulating pump.	8,949.04	444.84
23 52 16 16-0003	EA		105 MBH Water Gas Fired Condensing Boiler (Weil McLain Ultra 80)..... Note: Aluminum block with stainless steel burner. Includes boiler inline circulating pump.	9,847.64	513.31
23 52 16 16-0004	EA		155 MBH Water Gas Fired Condensing Boiler (Weil McLain Ultra 80)..... Note: Aluminum block with stainless steel burner. Includes boiler inline circulating pump.	11,079.99	615.87
23 52 16 16-0005	EA		230 MBH Water Gas Fired Condensing Boiler (Weil McLain Ultra 80)..... Note: Aluminum block with stainless steel burner. Includes boiler inline circulating pump.	12,440.77	684.35
23 52 16 16-0006	EA		310 MBH Water Gas Fired Condensing Boiler (Weil McLain Ultra 80)..... Note: Aluminum block with stainless steel burner. Includes boiler inline circulating pump.	16,215.10	787.02
23 52 16 16-0007			Patterson Kelley Mach Series Aluminum Condensing Boilers (23 52 16 16) Note: Rated by gross rated output.		
23 52 16 16-0008	EA		300 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach CM300).....	15,874.81	752.83
23 52 16 16-0009	EA		450 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C450).....	17,848.15	855.49
23 52 16 16-0010	EA		750 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C750).....	20,255.94	1,026.53
23 52 16 16-0011	EA		900 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C900).....	29,860.44	1,163.37
23 52 16 16-0012	EA		1,050 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C1050).....	31,199.96	1,231.85
23 52 16 16-0013	EA		1,500 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C1500).....	48,193.56	1,402.89
23 52 16 16-0014	EA		2,000 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C2000).....	52,181.71	1,505.55
23 52 16 16-0015	EA		2,500 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C2500).....	78,599.62	1,642.41
23 52 16 16-0016	EA		3,000 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C3000).....	91,306.01	1,676.70
23 52 16 16-0017	EA		4,000 MBH Water, Gas Fired, Aluminum Condensing Boiler (Patterson Kelley Mach C4000).....	103,928.84	1,779.36
23 52 16 16-0018			Buderus GB142 Wall Hung Aluminum Condensing Boilers (23 52 16 16) Note: Includes standard controls. Rated by gross rated output.		
23 52 16 16-0019	EA		75 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB142/24)..... Note: Includes an aluminum heat exchanger and three speed circulating pump.	6,729.82	410.66
23 52 16 16-0020	EA		95 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB142/30)..... Note: Includes an aluminum heat exchanger and three speed circulating pump.	7,814.92	479.02
23 52 16 16-0021	EA		143 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB142/45)..... Note: Includes an aluminum heat exchanger and three speed circulating pump.	8,999.76	581.69
23 52 16 16-0022	EA		193 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB142/60)..... Note: Includes an aluminum heat exchanger and three speed circulating pump.	9,846.65	650.16
23 52 16 16-0023	EA		Optional Vertical Or Horizontal 3" Concentric Termination Kit For GB142 (Buderus 60L46).....	326.63	102.66
23 52 16 16-0024	EA		Optional Stainless Steel Concentric Hood For GB142 (Buderus SJT3).....	427.47	102.66
23 52 16 16-0025	EA		Optional GB Floor Stand For GB142 (Buderus 7098265).....	912.66	102.66
23 52 16 16-0026			Buderus GB162 Wall Hung Aluminum Condensing Boilers (23 52 16 16) Note: Includes standard controls. Rated by gross rated output.		
23 52 16 16-0027	EA		290 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB162/80)..... Note: Includes an aluminum heat exchanger, connection pump module, low loss header, outdoor reset module, outdoor temperature sensor, and 1-1/2" unions.	11,124.25	752.83
23 52 16 16-0028	EA		333 MBH Water, Gas Fired, Wall Hung Aluminum Condensing Boiler (Buderus GB162/100)..... Note: Includes an aluminum heat exchanger, connection pump module, low loss header, outdoor reset module, outdoor temperature sensor, and 1-1/2" unions.	13,774.52	787.02
23 52 16 16-0029	EA		580 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Two Boilers) (Buderus GB162/80-TL2)..... Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	26,812.31	923.87
23 52 16 16-0030	EA		580 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler Back To Back Cascade Package (Two Boilers) (Buderus GB162/80-TR2)..... Note: Includes an aluminum heat exchangers, connection pump module, back to back cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	25,034.98	923.87
23 52 16 16-0031	EA		666 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Two Boilers) (Buderus GB162/100-TL2)..... Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	32,112.83	992.34
23 52 16 16-0032	EA		666 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler Back To Back Cascade Package (Two Boilers) (Buderus GB162/100-TR2)..... Note: Includes an aluminum heat exchangers, connection pump module, back to back cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	30,335.51	992.34
23 52 16 16-0033	EA		870 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Three Boilers) (Buderus GB162/80-TL3)..... Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	37,331.73	1,163.37
23 52 16 16-0034	EA		999 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Three Boilers) (Buderus GB162/100-TL3)..... Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	45,179.87	1,231.85

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 16 16-0035	EA	1,160 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Four Boilers) (Buderus GB162/80-TL4) Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	46,426.71	1,300.23
23 52 16 16-0036	EA	1,160 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler Back To Back Cascade Package (Four Boilers) (Buderus GB162/80-TR4) Note: Includes an aluminum heat exchangers, connection pump module, back to back cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	47,138.54	1,300.23
23 52 16 16-0037	EA	1,332 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler In Line Cascade Package (Four Boilers) (Buderus GB162/100-TL4) Note: Includes an aluminum heat exchangers, connection pump module, inline cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	56,719.79	1,334.52
23 52 16 16-0038	EA	1,332 MBH Water, Gas Fired, Frame Mounted Aluminum Condensing Boiler Back To Back Cascade Package (Four Boilers) (Buderus GB162/100-TR4) Note: Includes an aluminum heat exchangers, connection pump module, back to back cascade package (stand), RC35 controller, outdoor temperature sensor, MCM10 intelligent sequencing module, WM10 low loss header module and insulation package.	57,431.62	1,334.52
23 52 16 16-0039	EA	EMS Control Module For Condensing Boiler (Buderus RC35)	753.05	102.66
23 52 16 16-0040 Buderus GB312 Aluminum Condensing Boilers (23 52 16 16)				
Note: Includes standard controls. Rated by gross rated output.				
23 52 16 16-0041	EA	305 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/90) Note: Includes an aluminum heat exchanger.	16,043.43	752.83
23 52 16 16-0042	EA	409 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/120) Note: Includes an aluminum heat exchanger.	18,726.78	821.20
23 52 16 16-0043	EA	544 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/160) Note: Includes an aluminum heat exchanger.	23,501.97	906.72
23 52 16 16-0044	EA	676 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/200) Note: Includes an aluminum heat exchanger.	27,032.20	992.34
23 52 16 16-0045	EA	810 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/240) Note: Includes an aluminum heat exchanger.	32,367.48	1,095.01
23 52 16 16-0046	EA	944 MBH Water, Gas Fired, Aluminum Condensing Boiler (Buderus GB312/280) Note: Includes an aluminum heat exchanger.	35,744.45	1,197.66
23 52 16 16-0047	EA	Optional CSD-1 Kit Consisting Of High And Low Gas Pressure Switches For GB312 (Buderus 7747019985).....	486.28	51.33
23 52 16 16-0048	EA	Optional L4006E1125 Manual Reset Aquastat For GB312 (Buderus L4006E1125).....	263.42	51.33
23 52 16 16-0049	EA	Optional Hydrolevel 550 low Water Cut-Off For GB312 (Buderus 550).....	375.95	51.33
23 52 16 16-0050	EA	Optional Condensate Neutralization Tank For GB312 (Buderus 63035899)	793.91	51.33
23 52 16 19 Copper Water-Tube Condensing Boilers (23 52 16)				
23 52 16 19-0001 Laars Rheos+ Copper Fin Tube Condensing Boilers (23 52 16 19)				
Note: Rated by gross rated output.				
23 52 16 19-0002	EA	1,200 MBH Water, Gas Fired, Copper Fin Tube Condensing Boiler (Laars Rheos+).....	45,181.55	1,300.23
23 52 16 19-0003	EA	1,600 MBH Water, Gas Fired, Copper Fin Tube Condensing Boiler (Laars Rheos+).....	50,950.21	1,437.18
23 52 16 19-0004	EA	2,000 MBH Water, Gas Fired, Copper Fin Tube Condensing Boiler (Laars Rheos+).....	55,770.13	1,505.55
23 52 16 19-0005	EA	2,400 MBH Water, Gas Fired, Copper Fin Tube Condensing Boiler (Laars Rheos+).....	60,196.10	1,574.03
23 52 16 23 Cast Iron Condensing Boilers (23 52 16)				
23 52 16 23-0001 Hydrotherm KN Cast Iron Condensing Boilers (23 52 16 23)				
Note: Rated by gross rated output.				
23 52 16 23-0002	EA	199 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-2).....	15,857.92	650.16
23 52 16 23-0003	EA	399 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-4).....	23,243.09	821.20
23 52 16 23-0004	EA	600 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-6).....	38,304.47	958.06
23 52 16 23-0005	EA	1,000 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-10).....	50,285.00	1,231.85
23 52 16 23-0006	EA	1,600 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-16).....	87,728.01	1,437.18
23 52 16 23-0007	EA	1,999 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-20).....	73,188.04	1,505.55
23 52 16 23-0008	EA	2,600 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-26).....	122,250.88	1,642.41
23 52 16 23-0009	EA	3,000 MBH Water, Gas Fired, Cast Iron Condensing Boiler (Hydrotherm KN-30).....	133,778.28	1,676.70
23 52 23 Cast-Iron Boilers (23 52)				
23 52 23 00-0001 Weil-McLain Model 80 Cast Iron Boiler (23 52 23)				
Note: Capacities are the net AHRI ratings for steam or water MBH output. Includes burner unit and controls. Excludes flue piping, fuel piping, boiler base or pad.				
23 52 23 00-0002 Gas Fired Weil-McLain Model 80 Cast Iron Boiler (23 52 23 00-0001)				
Note: Field assembled boilers can only be used in situations where package units cannot be installed.				
23 52 23 00-0003	EA	209 MBH Steam, 242 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 380)..... Note: Includes field assembly of individual sections and testing.	16,193.02	3,113.83
23 52 23 00-0004	EA	297 MBH Steam, 344 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 480)..... Note: Includes field assembly of individual sections and testing.	17,721.78	3,321.42
23 52 23 00-0005	EA	386 MBH Steam, 448 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 580)..... Note: Includes field assembly of individual sections and testing.	19,396.26	3,529.01
23 52 23 00-0006	EA	476 MBH Steam, 551 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 680)..... Note: Includes field assembly of individual sections and testing.	20,952.52	3,736.59
23 52 23 00-0007	EA	565 MBH Steam, 655 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 780)..... Note: Includes field assembly of individual sections and testing.	22,388.77	3,944.18



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central Heating Equipment			23 50	
Heating Boilers			23 52	

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 23 00-0008 EA 654 MBH Steam, 758 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 880)..... Note: Includes field assembly of individual sections and testing.	24,359.71	4,151.77
23 52 23 00-0009 EA 743 MBH Steam, 862 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 980)..... Note: Includes field assembly of individual sections and testing.	25,880.02	4,359.36
23 52 23 00-0010 EA 833 MBH Steam, 965 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1080)..... Note: Includes field assembly of individual sections and testing.	27,084.24	4,566.94
23 52 23 00-0011 EA 922 MBH Steam, 1,069 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1180)..... Note: Includes field assembly of individual sections and testing.	28,284.01	4,774.54
23 52 23 00-0012 EA 1,018 MBH Steam, 1,172 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1280)..... Note: Includes field assembly of individual sections and testing.	29,671.42	4,982.13
23 52 23 00-0013 Gas Fired Package Weil-McLain Model 80 Cast Iron Boiler (23 52 23 00-0001)		
23 52 23 00-0014 EA 209 MBH Steam, 242 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 380)..... Note: Fire tested factory assembled package unit.	11,803.66	452.28
23 52 23 00-0015 EA 297 MBH Steam, 344 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 480)..... Note: Fire tested factory assembled package unit.	13,118.59	452.28
23 52 23 00-0016 EA 386 MBH Steam, 448 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 580)..... Note: Fire tested factory assembled package unit.	15,034.01	565.35
23 52 23 00-0017 EA 476 MBH Steam, 551 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 680)..... Note: Fire tested factory assembled package unit.	16,374.77	565.35
23 52 23 00-0018 EA 565 MBH Steam, 655 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 780)..... Note: Fire tested factory assembled package unit.	18,052.24	678.42
23 52 23 00-0019 EA 654 MBH Steam, 758 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 880)..... Note: Fire tested factory assembled package unit.	19,825.42	678.42
23 52 23 00-0020 EA 743 MBH Steam, 862 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 980)..... Note: Fire tested factory assembled package unit.	21,584.47	791.49
23 52 23 00-0021 EA 833 MBH Steam, 965 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1080)..... Note: Fire tested factory assembled package unit.	23,028.05	904.57
23 52 23 00-0022 EA 922 MBH Steam, 1,069 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1180)..... Note: Fire tested factory assembled package unit.	24,016.62	904.57
23 52 23 00-0023 EA 1018 MBH Steam, 1172 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1280)..... Note: Fire tested factory assembled package unit.	25,641.05	1,017.64
23 52 23 00-0024 Gas/Oil Fired Weil-McLain Model 80 Cast Iron Boiler (23 52 23 00-0001)		
Note: Field assembled boilers can only be used in situations where package units cannot be installed.		
23 52 23 00-0025 EA 209 MBH Steam, 242 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 380)..... Note: Includes field assembly of individual sections and testing.	16,961.31	3,113.83
23 52 23 00-0026 EA 297 MBH Steam, 344 MBH Water Gas/Oil Fired Cast Iron Boiler..... Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.	18,627.41	3,321.42
23 52 23 00-0027 EA 386 MBH Steam, 448 MBH Water Gas/Oil Fired Cast Iron Boiler..... Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.	20,218.94	3,529.01
23 52 23 00-0028 EA 476 MBH Steam, 551 MBH Water Gas/Oil Fired Cast Iron Boiler..... Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.	21,998.20	3,736.59
23 52 23 00-0029 EA 565 MBH Steam, 655 MBH Water Gas/Oil Fired Cast Iron Boiler..... Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.	23,463.01	3,944.18
23 52 23 00-0030 EA 654 MBH Steam, 758 MBH Water Gas/Oil Fired Cast Iron Boiler..... Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.	25,608.00	4,151.77
23 52 23 00-0031 EA 743 MBH Steam, 862 MBH Water Gas/Oil Fired Cast Iron Boiler..... Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.	26,951.55	4,359.36
23 52 23 00-0032 EA 833 MBH Steam, 965 MBH Water Gas/Oil Fired Cast Iron Boiler..... Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.	28,257.75	4,566.94
23 52 23 00-0033 EA 922 MBH Steam, 1069 MBH Water Gas/Oil Fired Cast Iron Boiler..... Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.	29,458.88	4,774.54
23 52 23 00-0034 EA 1,018 MBH Steam, 1172 MBH Water Gas/Oil Fired Cast Iron Boiler..... Note: Weil-McLain Model 80. Includes field assembly of individual sections and testing.	30,883.00	4,982.13
23 52 23 00-0035 Gas/Oil Fired Package Weil-McLain Model 80 Cast Iron Boiler (23 52 23 00-0001)		
23 52 23 00-0036 EA 209 MBH Steam, 242 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 380)..... Note: Fire tested factory assembled package cast iron unit.	12,571.95	452.28
23 52 23 00-0037 EA 297 MBH Steam, 344 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 480)..... Note: Fire tested factory assembled package cast iron unit.	14,024.21	452.28
23 52 23 00-0038 EA 386 MBH Steam, 448 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 580)..... Note: Fire tested factory assembled package cast iron unit.	15,856.69	565.35
23 52 23 00-0039 EA 476 MBH Steam, 551 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 680)..... Note: Fire tested factory assembled package cast iron unit.	17,420.46	565.35
23 52 23 00-0040 EA 565 MBH Steam, 655 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 780)..... Note: Fire tested factory assembled package cast iron unit.	19,126.49	678.42
23 52 23 00-0041 EA 654 MBH Steam, 758 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 880)..... Note: Fire tested factory assembled package cast iron unit.	21,073.72	678.42
23 52 23 00-0042 EA 743 MBH Steam, 862 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 980)..... Note: Fire tested factory assembled package cast iron unit.	22,655.99	791.49
23 52 23 00-0043 EA 833 MBH Steam, 965 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1080)..... Note: Fire tested factory assembled package cast iron unit.	24,201.55	904.57
23 52 23 00-0044 EA 922 MBH Steam, 1,069 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1180)..... Note: Fire tested factory assembled package cast iron unit.	25,191.49	904.57
23 52 23 00-0045 EA 1,018 MBH Steam, 1,172 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1280)..... Note: Fire tested factory assembled package cast iron unit.	26,852.63	1,017.64

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT
UNIT COST DEMOLITION
UNIT COST

23 52 23 00-0046		Weil-McLain Model 88 Cast Iron Boiler (23 52 23) Note: Capacities are the net AHRI ratings for steam or water MBH output. Includes burner unit and controls. Excludes fue piping, fuel piping, boiler base or pad.		
23 52 23 00-0047		Gas Fired Weil-McLain Model 88 Cast Iron Boiler (23 52 23 00-0046) Note: Field assembled boilers can only be used in situations where package units cannot be installed.		
23 52 23 00-0048	EA	629 MBH Steam, 730 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 488).....	26,440.27	4,670.74
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0049	EA	845 MBH Steam, 979 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 588).....	29,226.28	4,956.18
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0050	EA	1072 MBH Steam, 1229 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 688).....	32,678.65	5,241.61
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0051	EA	1,311 MBH Steam, 1,478 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 788).....	35,718.57	5,527.04
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0052	EA	1,543 MBH Steam, 1,728 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 888).....	38,359.51	5,812.48
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0053	EA	1,766 MBH Steam, 1,977 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 988).....	42,194.18	6,097.91
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0054	EA	1,988 MBH Steam, 2,227 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1088).....	44,860.15	6,383.35
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0055	EA	2,211 MBH Steam, 2,477 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1188).....	47,216.75	6,668.78
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0056	EA	2,434 MBH Steam, 2,726 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1288).....	50,368.45	6,954.21
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0057	EA	2,657 MBH Steam, 2,976 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1388).....	52,900.20	7,239.65
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0058	EA	2,880 MBH Steam, 3,225 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1488).....	57,009.91	7,525.08
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0059	EA	3,102 MBH Steam, 3,475 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1588).....	59,418.05	7,810.52
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0060	EA	3,325 MBH Steam, 3,724 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1688).....	61,973.30	8,095.95
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0061	EA	3,548 MBH Steam, 3,974 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1788).....	64,822.32	8,381.38
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0062	EA	3,771 MBH Steam, 4,223 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain 1888).....	67,137.32	8,666.82
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0063		Gas Fired Package Weil-McLain Model 88 Cast Iron Boiler (23 52 23 00-0046)		
23 52 23 00-0064	EA	629 MBH Steam, 730 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 488).....	21,603.51	791.49
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0065	EA	845 MBH Steam, 979 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 588).....	24,503.43	904.57
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0066	EA	1,072 MBH Steam, 1,229 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 688).....	28,085.97	1,017.64
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0067	EA	1,311 MBH Steam, 1,478 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 788).....	31,226.58	1,130.71
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0068	EA	1,543 MBH Steam, 1,728 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 888).....	33,527.36	1,130.71
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0069	EA	1,766 MBH Steam, 1,977 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 988).....	37,479.75	1,243.78
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0070	EA	1,988 MBH Steam, 2,227 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1088).....	39,809.09	1,243.78
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0071	EA	2,211 MBH Steam, 2,477 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1188).....	42,279.32	1,356.85
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0072	EA	2,434 MBH Steam, 2,726 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1288).....	45,095.47	1,356.85
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0073	EA	2,657 MBH Steam, 2,976 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1388).....	47,741.14	1,469.92
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0074	EA	2,880 MBH Steam, 3,225 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1488).....	50,303.81	1,582.99
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0075	EA	3,102 MBH Steam, 3,475 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1588).....	52,376.15	1,582.99
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0076	EA	3,325 MBH Steam, 3,724 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1688).....	55,046.25	1,696.06
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0077	EA	3,548 MBH Steam, 3,974 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1788).....	57,557.80	1,696.06
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0078	EA	3,771 MBH Steam, 4,223 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain 1888).....	60,015.75	1,809.13
		Note: Fire tested factory assembled package unit.		
23 52 23 00-0079		Gas/Oil Fired Weil-McLain Model 88 Cast Iron Boiler (23 52 23 00-0046) Note: Field assembled boilers can only be used in situations where package units cannot be installed.		
23 52 23 00-0080	EA	629 MBH Steam, 730 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 488).....	27,386.69	4,670.74
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0081	EA	845 MBH Steam, 979 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 588).....	30,167.26	4,956.18
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0082	EA	1,072 MBH Steam, 1,229 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 688).....	33,864.40	5,241.61
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0083	EA	1,311 MBH Steam, 1,478 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 788).....	37,023.98	5,527.04
		Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0084	EA	1,543 MBH Steam, 1,728 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 888).....	39,531.65	5,812.48
		Note: Includes field assembly of individual sections and testing.		



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central Heating Equipment			23 50	
Heating Boilers			23 52	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 23 00-0085	EA	1,766 MBH Steam, 1,977 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 988) Note: Includes field assembly of individual sections and testing.	43,292.89	6,097.91
23 52 23 00-0086	EA	1,988 MBH Steam, 2,227 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1088) Note: Includes field assembly of individual sections and testing.	46,509.59	6,383.35
23 52 23 00-0087	EA	2,211 MBH Steam, 2,477 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1188) Note: Includes field assembly of individual sections and testing.	48,866.18	6,668.78
23 52 23 00-0088	EA	2,434 MBH Steam, 2,726 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1288) Note: Includes field assembly of individual sections and testing.	51,985.25	6,954.21
23 52 23 00-0089	EA	2,657 MBH Steam, 2,976 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1388) Note: Includes field assembly of individual sections and testing.	55,211.86	7,239.65
23 52 23 00-0090	EA	2,880 MBH Steam, 3,225 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1488) Note: Includes field assembly of individual sections and testing.	59,438.51	7,525.08
23 52 23 00-0091	EA	3,102 MBH Steam, 3,475 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1588) Note: Includes field assembly of individual sections and testing.	62,663.89	7,810.52
23 52 23 00-0092	EA	3,325 MBH Steam, 3,724 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1688) Note: Includes field assembly of individual sections and testing.	64,400.54	8,095.95
23 52 23 00-0093	EA	3,548 MBH Steam, 3,974 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1788) Note: Includes field assembly of individual sections and testing.	67,176.14	8,381.38
23 52 23 00-0094	EA	3,771 MBH Steam, 4,223 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain 1888) Note: Includes field assembly of individual sections and testing.	69,516.97	8,666.82
23 52 23 00-0095		Gas/Oil Fired Package Weil-McLain Model 88 Cast Iron Boiler (23 52 23 00-0046)		
23 52 23 00-0096	EA	629 MBH Steam, 730 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 488) Note: Fire tested factory assembled package cast iron unit.	22,549.93	791.49
23 52 23 00-0097	EA	845 MBH Steam, 979 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 588) Note: Fire tested factory assembled package cast iron unit.	25,444.41	904.57
23 52 23 00-0098	EA	1,072 MBH Steam, 1,229 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 688) Note: Fire tested factory assembled package cast iron unit.	29,258.12	1,017.64
23 52 23 00-0099	EA	1,311 MBH Steam, 1,478 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 788) Note: Fire tested factory assembled package cast iron unit.	32,531.99	1,130.71
23 52 23 00-0100	EA	1,543 MBH Steam, 1,728 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 888) Note: Fire tested factory assembled package cast iron unit.	34,702.23	1,130.71
23 52 23 00-0101	EA	1,766 MBH Steam, 1,977 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 988) Note: Weil-McLain Model 88. Fire tested factory assembled package cast iron unit.	38,578.47	1,243.78
23 52 23 00-0102	EA	1,988 MBH Steam, 2,227 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1088) Note: Fire tested factory assembled package cast iron unit.	41,458.52	1,243.78
23 52 23 00-0103	EA	2,211 MBH Steam, 2,477 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1188) Note: Fire tested factory assembled package cast iron unit.	43,928.76	1,356.85
23 52 23 00-0104	EA	2,434 MBH Steam, 2,726 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1288) Note: Fire tested factory assembled package cast iron unit.	46,712.27	1,356.85
23 52 23 00-0105	EA	2,657 MBH Steam, 2,976 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1388) Note: Fire tested factory assembled package cast iron unit.	50,059.60	1,469.92
23 52 23 00-0106	EA	2,880 MBH Steam, 3,225 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1488) Note: Fire tested factory assembled package cast iron unit.	52,732.42	1,582.99
23 52 23 00-0107	EA	3,102 MBH Steam, 3,475 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1588) Note: Fire tested factory assembled package cast iron unit.	54,262.19	1,582.99
23 52 23 00-0108	EA	3,325 MBH Steam, 3,724 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1688) Note: Fire tested factory assembled package cast iron unit.	57,473.49	1,696.06
23 52 23 00-0109	EA	3,548 MBH Steam, 3,974 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1788) Note: Fire tested factory assembled package cast iron unit.	59,911.62	1,696.06
23 52 23 00-0110	EA	3,771 MBH Steam, 4,223 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain 1888) Note: Fire tested factory assembled package cast iron unit.	62,368.20	1,809.13
23 52 23 00-0111		Weil-McLain Model 94 Cast Iron Boiler (23 52 23) Note: Capacities are the net AHRI ratings for steam or water MBH output. Includes burner unit and controls. Excludes flue piping, fuel piping, boiler base or pad.		
23 52 23 00-0112		Gas Fired Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111) Note: Field assembled boilers can only be used in situations where package units cannot be installed.		
23 52 23 00-0113	EA	1,584 MBH Steam, 1,784 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-894) Note: Includes field assembly of individual sections and testing.	72,671.53	9,082.00
23 52 23 00-0114	EA	1,800 MBH Steam, 2,050 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-994) Note: Includes field assembly of individual sections and testing.	78,824.00	9,600.97
23 52 23 00-0115	EA	2,024 MBH Steam, 2,310 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1094) Note: Includes field assembly of individual sections and testing.	84,438.66	10,119.94
23 52 23 00-0116	EA	2,249 MBH Steam, 2,571 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1194) Note: Includes field assembly of individual sections and testing.	89,935.16	10,638.91
23 52 23 00-0117	EA	2,474 MBH Steam, 2,834 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1294) Note: Includes field assembly of individual sections and testing.	95,483.11	11,157.89
23 52 23 00-0118	EA	2,703 MBH Steam, 3,098 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1394) Note: Includes field assembly of individual sections and testing.	102,511.41	11,676.86
23 52 23 00-0119	EA	2,928 MBH Steam, 3,362 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1494) Note: Includes field assembly of individual sections and testing.	107,736.07	12,195.82
23 52 23 00-0120	EA	3,154 MBH Steam, 3,628 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1594) Note: Includes field assembly of individual sections and testing.	112,789.91	12,714.80
23 52 23 00-0121	EA	3,378 MBH Steam, 3,894 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1694) Note: Includes field assembly of individual sections and testing.	121,046.22	13,233.77
23 52 23 00-0122	EA	3,604 MBH Steam, 4,162 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1794) Note: Includes field assembly of individual sections and testing.	126,097.14	13,752.75
23 52 23 00-0123	EA	3,834 MBH Steam, 4,430 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1894) Note: Includes field assembly of individual sections and testing.	130,423.27	14,271.71

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 23 00-0124	EA	4,059 MBH Steam, 4,700 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-1994) Note: Includes field assembly of individual sections and testing.	138,390.12	14,790.68
23 52 23 00-0125	EA	4,285 MBH Steam, 4,970 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2094) Note: Includes field assembly of individual sections and testing.	143,483.44	15,309.66
23 52 23 00-0126	EA	4,510 MBH Steam, 5,241 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2194) Note: Includes field assembly of individual sections and testing.	151,634.38	15,828.63
23 52 23 00-0127	EA	4,781 MBH Steam, 5,568 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2294) Note: Includes field assembly of individual sections and testing.	156,998.70	16,347.60
23 52 23 00-0128	EA	4,961 MBH Steam, 5,787 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2394) Note: Includes field assembly of individual sections and testing.	162,872.83	16,866.57
23 52 23 00-0129	EA	5,232 MBH Steam, 6,117 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2494) Note: Includes field assembly of individual sections and testing.	167,911.45	17,385.54
23 52 23 00-0130	EA	5,413 MBH Steam, 6,338 MBH Water Gas Fired Cast Iron Boiler (Weil-McLain H-2594) Note: Includes field assembly of individual sections and testing.	173,096.32	17,904.51
23 52 23 00-0131 Gas Fired Package Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111)				
23 52 23 00-0132	EA	1,584 MBH Steam, 1,784 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-894) Note: Fire tested factory assembled package cast iron unit.	66,139.24	1,469.92
23 52 23 00-0133	EA	1,800 MBH Steam, 2,050 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-994) Note: Fire tested factory assembled package cast iron unit.	72,135.40	1,582.99
23 52 23 00-0134	EA	2,024 MBH Steam, 2,310 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1094) Note: Fire tested factory assembled package cast iron unit.	77,590.38	1,696.06
23 52 23 00-0135	EA	2,249 MBH Steam, 2,571 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1194) Note: Fire tested factory assembled package cast iron unit.	82,931.10	1,809.13
23 52 23 00-0136	EA	2,474 MBH Steam, 2,834 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1294) Note: Fire tested factory assembled package cast iron unit.	87,867.17	1,809.13
23 52 23 00-0137	EA	2,703 MBH Steam, 3,098 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1394) Note: Fire tested factory assembled package cast iron unit.	93,080.22	1,922.20
23 52 23 00-0138	EA	2,928 MBH Steam, 3,362 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1494) Note: Fire tested factory assembled package cast iron unit.	97,694.02	1,922.20
23 52 23 00-0139	EA	3,154 MBH Steam, 3,628 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1594) Note: Fire tested factory assembled package cast iron unit.	102,590.07	2,035.27
23 52 23 00-0140	EA	3,378 MBH Steam, 3,894 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1694) Note: Fire tested factory assembled package cast iron unit.	110,236.22	2,035.27
23 52 23 00-0141	EA	3,604 MBH Steam, 4,162 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1794) Note: Fire tested factory assembled package cast iron unit.	115,130.91	2,148.34
23 52 23 00-0142	EA	3,834 MBH Steam, 4,430 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1894) Note: Fire tested factory assembled package cast iron unit.	118,845.88	2,148.34
23 52 23 00-0143	EA	4,059 MBH Steam, 4,700 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-1994) Note: Fire tested factory assembled package cast iron unit.	126,657.46	2,261.41
23 52 23 00-0144	EA	4,285 MBH Steam, 4,970 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2094) Note: Fire tested factory assembled package cast iron unit.	131,139.36	2,261.41
23 52 23 00-0145	EA	4,510 MBH Steam, 5,241 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2194) Note: Fire tested factory assembled package cast iron unit.	139,157.66	2,374.48
23 52 23 00-0146	EA	4,781 MBH Steam, 5,568 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2294) Note: Fire tested factory assembled package cast iron unit.	143,885.68	2,374.48
23 52 23 00-0147	EA	4,961 MBH Steam, 5,787 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2394) Note: Fire tested factory assembled package cast iron unit.	149,600.38	2,487.55
23 52 23 00-0148	EA	5,232 MBH Steam, 6,117 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2494) Note: Fire tested factory assembled package cast iron unit.	154,029.25	2,487.55
23 52 23 00-0149	EA	5,413 MBH Steam, 6,338 MBH Water Gas Fired Package Cast Iron Boiler (Weil-McLain H-2594) Note: Fire tested factory assembled package cast iron unit.	159,055.84	2,600.63
23 52 23 00-0150 Oil Fired Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111)				
Note: Field assembled boilers can only be used in situations where package units cannot be installed.				
23 52 23 00-0151	EA	1,584 MBH Steam, 1,784 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-894) Note: Includes field assembly of individual sections and testing.	68,613.89	9,082.00
23 52 23 00-0152	EA	1,800 MBH Steam, 2,050 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-994) Note: Includes field assembly of individual sections and testing.	74,766.36	9,600.97
23 52 23 00-0153	EA	2,024 MBH Steam, 2,310 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1094) Note: Includes field assembly of individual sections and testing.	82,260.26	10,119.94
23 52 23 00-0154	EA	2,249 MBH Steam, 2,571 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1194) Note: Includes field assembly of individual sections and testing.	87,265.87	10,638.91
23 52 23 00-0155	EA	2,474 MBH Steam, 2,834 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1294) Note: Includes field assembly of individual sections and testing.	92,479.31	11,157.89
23 52 23 00-0156	EA	2,703 MBH Steam, 3,098 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1394) Note: Includes field assembly of individual sections and testing.	99,133.67	11,676.86
23 52 23 00-0157	EA	2,928 MBH Steam, 3,362 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1494) Note: Includes field assembly of individual sections and testing.	104,611.25	12,195.82
23 52 23 00-0158	EA	3,154 MBH Steam, 3,628 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1594) Note: Includes field assembly of individual sections and testing.	109,667.81	12,714.80
23 52 23 00-0159	EA	3,378 MBH Steam, 3,894 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1694) Note: Includes field assembly of individual sections and testing.	118,895.02	13,233.77
23 52 23 00-0160	EA	3,604 MBH Steam, 4,162 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1794) Note: Includes field assembly of individual sections and testing.	123,947.30	13,752.75
23 52 23 00-0161	EA	3,834 MBH Steam, 4,430 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1894) Note: Includes field assembly of individual sections and testing.	128,998.20	14,271.71
23 52 23 00-0162	EA	4,059 MBH Steam, 4,700 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-1994) Note: Includes field assembly of individual sections and testing.	138,399.64	14,790.68
23 52 23 00-0163	EA	4,285 MBH Steam, 4,970 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2094) Note: Includes field assembly of individual sections and testing.	143,492.96	15,309.66



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Heating Boilers			23 52

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 23 00-0164	EA	4,510 MBH Steam, 5,241 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2194) Note: Includes field assembly of individual sections and testing.	151,862.82	15,828.63
23 52 23 00-0165	EA	4,781 MBH Steam, 5,568 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2294) Note: Includes field assembly of individual sections and testing.	157,225.79	16,347.60
23 52 23 00-0166	EA	4,961 MBH Steam, 5,787 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2394) Note: Includes field assembly of individual sections and testing.	162,982.97	16,866.57
23 52 23 00-0167	EA	5,232 MBH Steam, 6,117 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2494) Note: Includes field assembly of individual sections and testing.	168,021.59	17,385.54
23 52 23 00-0168	EA	5,413 MBH Steam, 6,338 MBH Water Oil Fired Cast Iron Boiler (Weil-McLain H-2594) Note: Includes field assembly of individual sections and testing.	173,214.62	17,904.51
23 52 23 00-0169 Oil Fired Package Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111)				
23 52 23 00-0170	EA	1,584 MBH Steam, 1,784 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-894) Note: Fire tested factory assembled package cast iron unit.	61,861.31	1,469.92
23 52 23 00-0171	EA	1,800 MBH Steam, 2,050 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-994) Note: Fire tested factory assembled package cast iron unit.	67,857.47	1,582.99
23 52 23 00-0172	EA	2,024 MBH Steam, 2,310 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1094) Note: Fire tested factory assembled package cast iron unit.	75,191.69	1,696.06
23 52 23 00-0173	EA	2,249 MBH Steam, 2,571 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1194) Note: Fire tested factory assembled package cast iron unit.	80,041.52	1,809.13
23 52 23 00-0174	EA	2,474 MBH Steam, 2,834 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1294) Note: Fire tested factory assembled package cast iron unit.	84,643.09	1,809.13
23 52 23 00-0175	EA	2,703 MBH Steam, 3,098 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1394) Note: Fire tested factory assembled package cast iron unit.	89,482.19	1,922.20
23 52 23 00-0176	EA	2,928 MBH Steam, 3,362 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1494) Note: Fire tested factory assembled package cast iron unit.	94,348.91	1,922.20
23 52 23 00-0177	EA	3,154 MBH Steam, 3,628 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1594) Note: Fire tested factory assembled package cast iron unit.	99,244.96	2,035.27
23 52 23 00-0178	EA	3,378 MBH Steam, 3,894 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1694) Note: Fire tested factory assembled package cast iron unit.	107,864.73	2,035.27
23 52 23 00-0179	EA	3,604 MBH Steam, 4,162 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1794) Note: Fire tested factory assembled package cast iron unit.	112,758.06	2,148.34
23 52 23 00-0180	EA	3,834 MBH Steam, 4,430 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1894) Note: Fire tested factory assembled package cast iron unit.	117,200.53	2,148.34
23 52 23 00-0181	EA	4,059 MBH Steam, 4,700 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-1994) Note: Fire tested factory assembled package cast iron unit.	126,446.69	2,261.41
23 52 23 00-0182	EA	4,285 MBH Steam, 4,970 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2094) Note: Fire tested factory assembled package cast iron unit.	130,928.59	2,261.41
23 52 23 00-0183	EA	4,510 MBH Steam, 5,241 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2194) Note: Fire tested factory assembled package cast iron unit.	139,138.62	2,374.48
23 52 23 00-0184	EA	4,781 MBH Steam, 5,568 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2294) Note: Fire tested factory assembled package cast iron unit.	143,892.48	2,374.48
23 52 23 00-0185	EA	4,961 MBH Steam, 5,787 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2394) Note: Fire tested factory assembled package cast iron unit.	149,490.24	2,487.55
23 52 23 00-0186	EA	5,232 MBH Steam, 6,117 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2494) Note: Fire tested factory assembled package cast iron unit.	153,919.10	2,487.55
23 52 23 00-0187	EA	5,413 MBH Steam, 6,338 MBH Water Oil Fired Package Cast Iron Boiler (Weil-McLain H-2594) Note: Fire tested factory assembled package cast iron unit.	158,953.85	2,600.63
23 52 23 00-0188 Gas/Oil Fired Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111)				
Note: Field assembled boilers can only be used in situations where package units cannot be installed.				
23 52 23 00-0189	EA	1,584 MBH Steam, 1,784 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-894) Note: Includes field assembly of individual sections and testing.	73,947.02	9,082.00
23 52 23 00-0190	EA	1,800 MBH Steam, 2,050 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-994) Note: Includes field assembly of individual sections and testing.	80,100.85	9,600.97
23 52 23 00-0191	EA	2,024 MBH Steam, 2,310 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1094) Note: Includes field assembly of individual sections and testing.	86,063.62	10,119.94
23 52 23 00-0192	EA	2,249 MBH Steam, 2,571 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1194) Note: Includes field assembly of individual sections and testing.	91,697.46	10,638.91
23 52 23 00-0193	EA	2,474 MBH Steam, 2,834 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1294) Note: Includes field assembly of individual sections and testing.	97,214.13	11,157.89
23 52 23 00-0194	EA	2,703 MBH Steam, 3,098 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1394) Note: Includes field assembly of individual sections and testing.	103,150.52	11,676.86
23 52 23 00-0195	EA	2,928 MBH Steam, 3,362 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1494) Note: Includes field assembly of individual sections and testing.	109,858.72	12,195.82
23 52 23 00-0196	EA	3,154 MBH Steam, 3,628 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1594) Note: Includes field assembly of individual sections and testing.	115,247.07	12,714.80
23 52 23 00-0197	EA	3,378 MBH Steam, 3,894 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1694) Note: Includes field assembly of individual sections and testing.	123,716.87	13,233.77
23 52 23 00-0198	EA	3,604 MBH Steam, 4,162 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1794) Note: Includes field assembly of individual sections and testing.	128,767.79	13,752.75
23 52 23 00-0199	EA	3,834 MBH Steam, 4,430 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1894) Note: Includes field assembly of individual sections and testing.	133,189.10	14,271.71
23 52 23 00-0200	EA	4,059 MBH Steam, 4,700 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-1994) Note: Includes field assembly of individual sections and testing.	141,248.42	14,790.68
23 52 23 00-0201	EA	4,285 MBH Steam, 4,970 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2094) Note: Includes field assembly of individual sections and testing.	147,701.54	15,309.66
23 52 23 00-0202	EA	4,510 MBH Steam, 5,241 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2194) Note: Includes field assembly of individual sections and testing.	156,581.33	15,828.63
23 52 23 00-0203	EA	4,781 MBH Steam, 5,568 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2294) Note: Includes field assembly of individual sections and testing.	161,904.86	16,347.60

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 23 00-0204 EA 4,961 MBH Steam, 5,787 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2394).....	168,031.91	16,866.57
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0205 EA 5,232 MBH Steam, 6,117 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2494).....	173,071.89	17,385.54
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0206 EA 5,413 MBH Steam, 6,338 MBH Water Gas/Oil Fired Cast Iron Boiler (Weil-McLain H-2594).....	178,260.84	17,904.51
Note: Includes field assembly of individual sections and testing.		
23 52 23 00-0207 Gas/Oil Fired Package Weil-McLain Model 94 Cast Iron Boiler (23 52 23 00-0111)		
23 52 23 00-0208 EA 1,584 MBH Steam, 1,784 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-894).....	67,513.99	1,469.92
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0209 EA 1,800 MBH Steam, 2,050 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-994).....	73,511.52	1,582.99
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0210 EA 2,024 MBH Steam, 2,310 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1094).....	79,318.68	1,696.06
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0211 EA 2,249 MBH Steam, 2,571 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1194).....	84,794.02	1,809.13
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0212 EA 2,474 MBH Steam, 2,834 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1294).....	89,698.82	1,809.13
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0213 EA 2,703 MBH Steam, 3,098 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1394).....	93,818.59	1,922.20
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0214 EA 2,928 MBH Steam, 3,362 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1494).....	99,915.94	1,922.20
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0215 EA 3,154 MBH Steam, 3,628 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1594).....	105,145.13	2,035.27
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0216 EA 3,378 MBH Steam, 3,894 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1694).....	113,007.50	2,035.27
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0217 EA 3,604 MBH Steam, 4,162 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1794).....	117,899.46	2,148.34
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0218 EA 3,834 MBH Steam, 4,430 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1894).....	121,710.98	2,148.34
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0219 EA 4,059 MBH Steam, 4,700 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-1994).....	129,615.03	2,261.41
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0220 EA 4,285 MBH Steam, 4,970 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2094).....	135,458.09	2,261.41
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0221 EA 4,510 MBH Steam, 5,241 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2194).....	144,178.04	2,374.48
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0222 EA 4,781 MBH Steam, 5,568 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2294).....	148,892.47	2,374.48
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0223 EA 4,961 MBH Steam, 5,787 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2394).....	154,858.73	2,487.55
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0224 EA 5,232 MBH Steam, 6,117 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2494).....	159,288.96	2,487.55
Note: Fire tested factory assembled package cast iron unit.		
23 52 23 00-0225 EA 5,413 MBH Steam, 6,338 MBH Water Gas/Oil Fired Package Cast Iron Boiler (Weil-McLain H-2594).....	164,320.98	2,600.63
Note: Fire tested factory assembled package cast iron unit.		
23 52 33 Water-Tube Boilers (23 52)		
23 52 33 13 Finned Water-Tube Boilers (23 52 33)		
23 52 33 13-0001 Laars Pennant 85% Efficient Water, Gas Fired, Copper Fin Tube LoNox Boiler (23 52 33 13)		
Note: Rated by gross rated output.		
23 52 33 13-0002 EA 200 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	8,859.58	609.82
23 52 33 13-0003 EA 300 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	9,749.55	677.58
23 52 33 13-0004 EA 400 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	11,199.08	813.09
23 52 33 13-0005 EA 500 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	14,310.36	846.97
23 52 33 13-0006 EA 750 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	16,810.88	1,016.36
23 52 33 13-0007 EA 1,000 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	20,657.88	1,219.63
23 52 33 13-0008 EA 1,250 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	23,469.93	1,287.40
23 52 33 13-0009 EA 1,500 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	25,998.64	1,389.03
23 52 33 13-0010 EA 1,750 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	28,351.63	1,456.79
23 52 33 13-0011 EA 2,000 MBH 85% Efficient, Water, Gas Fired, Copper Fin Tube LoNox Boiler (Laars Pennant).....	30,425.62	1,490.67
23 52 33 13-0012 Patterson Kelly Modufire Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (23 52 33 13)		
Note: Rated by gross rated output.		
23 52 33 13-0013 EA 1,000 MBH Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (Patterson Kelly Modufire).....	30,952.95	1,219.63
23 52 33 13-0014 EA 1,500 MBH Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (Patterson Kelly Modufire).....	38,663.75	1,389.03
23 52 33 13-0015 EA 2,000 MBH Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (Patterson Kelly Modufire).....	41,198.82	1,490.67
23 52 33 13-0016 EA 2,500 MBH Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (Patterson Kelly Modufire).....	58,306.61	1,693.94
23 52 33 13-0017 EA 3,000 MBH Forced Draft, Water, Gas Fired, Copper Fin Tube Boiler (Patterson Kelly Modufire).....	61,152.84	1,897.21
23 52 33 13-0018 Lochinvar Copper-Fin II Finned Tube Boiler (23 52 33 13)		
Note: Rated by gross rated output.		
23 52 33 13-0019 EA 340 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN0402).....	13,877.20	547.19
For High And Low Gas Pressure Switch With Manual Reset, Add	521.83	
For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add	462.27	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 33 13-0020	EA	425 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN0502)..... <i>For High And Low Gas Pressure Switch With Manual Reset, Add</i> <i>For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add</i>	16,650.26 521.83 462.27	683.74
23 52 33 13-0021	EA	552.5 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN0652)..... <i>For High And Low Gas Pressure Switch With Manual Reset, Add</i> <i>For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add</i>	17,837.98 521.83 462.27	821.31
23 52 33 13-0022	EA	637.5 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN0752)..... <i>For High And Low Gas Pressure Switch With Manual Reset, Add</i> <i>For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add</i>	18,335.71 521.83 462.27	821.31
23 52 33 13-0023	EA	841.5 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN0992)..... <i>For High And Low Gas Pressure Switch With Manual Reset, Add</i> <i>For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add</i>	22,742.02 521.83 462.27	1,026.63
23 52 33 13-0024	EA	1,071 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN1262)..... <i>For High And Low Gas Pressure Switch With Manual Reset, Add</i> <i>For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add</i>	26,394.81 521.83 462.27	1,026.63
23 52 33 13-0025	EA	1,224 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN1442)..... <i>For High And Low Gas Pressure Switch With Manual Reset, Add</i> <i>For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add</i>	28,811.10 521.83 462.27	1,026.63
23 52 33 13-0026	EA	1,530 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN1802)..... <i>For High And Low Gas Pressure Switch With Manual Reset, Add</i> <i>For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add</i>	31,012.42 521.83 462.27	1,231.96
23 52 33 13-0027	EA	1,759.5 MBH, 85% Efficient, Gas Fired, Copper Finned Tube Boiler (Lochinvar CHN2072)..... <i>For High And Low Gas Pressure Switch With Manual Reset, Add</i> <i>For Low Water Cut-Off, Probe Type, Manual Reset With Test, Add</i>	36,686.44 521.83 462.27	1,437.28
23 52 33 13-0028		Raypak Cupro-Nickel Finned-Tube Boiler With Pump (23 52 33 13) Note: Rated by gross rated output.		
23 52 33 13-0029	EA	385 MBH Water, Gas Fired, On/Off, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H4-399B)	13,297.58	752.11
23 52 33 13-0030	EA	420 MBH Water, Gas Fired, Two Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H3-499B)	14,312.90	677.58
23 52 33 13-0031	EA	546 MBH Water, Gas Fired, Two Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H3-649B)	15,940.99	813.09
23 52 33 13-0032	EA	630 MBH Water, Gas Fired, Two Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H3-749B)	16,913.34	923.04
23 52 33 13-0033	EA	756 MBH Water, Gas Fired, Two Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H3-899B)	18,787.57	1,016.36
23 52 33 13-0034	EA	832 MBH Water, Gas Fired, Two Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H3-989B)	20,211.10	1,093.98
23 52 33 13-0035	EA	1,058 MBH Water, Gas Fired, Three Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H8-1259B)	23,101.13	1,219.63
23 52 33 13-0036	EA	1,285 MBH Water, Gas Fired, Four Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H9-1529B)	26,905.19	1,287.40
23 52 33 13-0037	EA	1,512 MBH Water, Gas Fired, Four Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H9-1799B)	28,536.66	1,389.03
23 52 33 13-0038	EA	1,679 MBH Water, Gas Fired, Four Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H9-1999B)	34,227.56	1,422.92
23 52 33 13-0039	EA	1,739 MBH Water, Gas Fired, Four Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H9-2069B)	34,330.23	1,456.79
23 52 33 13-0040	EA	1,966 MBH Water, Gas Fired, Four Stage, Cupro-Nickel Finned-Tube Boiler With Pump (Raypak H9-2339B)	40,272.52	1,490.67
23 52 33 16		Steel Water-Tube Boilers (23 52 33)		
23 52 33 16-0001		Unilux 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (23 52 33 16) Note: Compliant with SCAQMD.		
23 52 33 16-0002	EA	1,250 MBH Input/1,062 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux ZF100).....	87,514.12	1,642.61
23 52 33 16-0003	EA	1,750 MBH Input/1,488 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux ZF150).....	94,036.40	2,053.27
23 52 33 16-0004	EA	2,200 MBH Input/1,870 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux ZF200).....	197,042.28	2,258.59
23 52 33 16-0005	EA	2,750 MBH Input/2,338 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux ZF250).....	204,419.55	2,463.92
23 52 33 16-0006	EA	3,000 MBH Input/2,550 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux ZF300).....	207,886.01	2,771.91
23 52 33 16-0007	EA	3,750 MBH Input/3,188 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux VZ350).....	218,950.81	3,079.89
23 52 33 16-0008	EA	4,300 MBH Input/3,655 MBH Output, 85% Efficient, Gas Fired, Forced Draft, Hot Water, Steel Flexible Watertube Boiler (Unilux VZ400).....	223,906.19	3,182.56
23 52 33 16-0009		Unilux 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (23 52 33 16) Note: Compliant with SCAQMD.		
23 52 33 16-0010	EA	1,250 MBH, 31 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF100LSG).....	102,174.98	1,847.94
23 52 33 16-0011	EA	1,750 MBH, 43.5 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF150LSG)	107,224.05	2,155.92
23 52 33 16-0012	EA	2,200 MBH, 54.5 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF200LSG)	211,497.80	2,361.25
23 52 33 16-0013	EA	2,750 MBH, 68 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF250LSG)	224,573.83	2,566.58
23 52 33 16-0014	EA	3,000 MBH, 74 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF300LSG).....	229,100.61	2,771.91
23 52 33 16-0015	EA	3,750 MBH, 93 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF350LSG).....	237,948.86	3,079.89
23 52 33 16-0016	EA	4,300 MBH, 106.5 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF400LSG)	245,966.71	3,285.22
23 52 33 16-0017	EA	5,400 MBH, 134 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF500LSG)	242,252.37	3,490.55

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 33 16-0018	EA	6,250 MBH, 155 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF600LSG).....	262,295.00	3,695.88
23 52 33 16-0019	EA	7,235 MBH, 179 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF700LSG).....	276,004.95	3,901.20
23 52 33 16-0020	EA	8,270 MBH, 205 HP, 83% Efficient, Gas Fired, Forced Draft, Low Pressure Steam, Steel Flexible Watertube Boiler (Unilux ZF800LSG).....	283,065.25	4,106.53
23 52 33 16-0021 Unilux 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (23 52 33 16)				
Note: Compliant with SCAQMD.				
23 52 33 16-0022	EA	1,250 MBH, 31 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 100HS).....	110,090.28	1,847.94
23 52 33 16-0023	EA	1,750 MBH, 43.5 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 150HS).....	116,724.18	2,155.92
23 52 33 16-0024	EA	2,200 MBH, 54.5 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 200HS).....	222,263.58	2,361.25
23 52 33 16-0025	EA	2,750 MBH, 68 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 250HS).....	235,656.58	2,566.58
23 52 33 16-0026	EA	3,000 MBH, 74 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 300HS).....	240,183.36	2,771.91
23 52 33 16-0027	EA	3,750 MBH, 93 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 350HS).....	247,448.99	3,079.89
23 52 33 16-0028	EA	4,300 MBH, 106.5 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 400HS).....	255,777.16	3,285.22
23 52 33 16-0029	EA	5,400 MBH, 134 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 500HS).....	251,435.53	3,490.55
23 52 33 16-0030	EA	6,250 MBH, 155 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 600HS).....	273,063.00	3,695.88
23 52 33 16-0031	EA	7,235 MBH, 179 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 700HS).....	281,705.92	3,901.20
23 52 33 16-0032	EA	8,270 MBH, 205 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 800HS).....	293,833.25	4,106.53
23 52 33 16-0033	EA	9,300 MBH, 230 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 900HS).....	326,858.23	4,311.85
23 52 33 16-0034	EA	10,330 MBH, 256 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 1000HS).....	473,401.58	4,517.18
23 52 33 16-0035	EA	12,400 MBH, 307 HP, 81% Efficient, Gas Fired, Forced Draft, High Pressure Steam, Steel Flexible Watertube Boiler (Unilux 1200HS).....	497,402.98	4,722.50
23 52 36 Fire-Box Boiler (23 52)				
23 52 36 00-0001 Package Oil Fired Firebox Boilers (23 52 36)				
Note: Prices are good for 15 PSI steam or 30 PSI water. Packaged type, complete with burner and all basic safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.) Normally required (Boiler HP) boiler sizes are based on HP rating and gross output.				
23 52 36 00-0002	EA	40 HP, 1,339 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	80,890.29	2,713.70
23 52 36 00-0003	EA	46 HP, 1,553 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	84,572.54	2,939.84
23 52 36 00-0004	EA	53 HP, 1,784 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	88,548.36	3,165.98
23 52 36 00-0005	EA	61 HP, 2,062 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	95,754.12	3,392.12
23 52 36 00-0006	EA	69 HP, 2,313 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	100,023.55	3,618.26
23 52 36 00-0007	EA	80 HP, 2,678 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	104,219.72	3,844.40
23 52 36 00-0008	EA	100 HP, 3,348 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	115,917.97	4,070.54
23 52 36 00-0009	EA	127 HP, 4,251 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	134,132.02	4,522.83
23 52 36 00-0010	EA	151 HP, 5,055 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	152,654.46	4,975.11
23 52 36 00-0011	EA	183 HP, 6,126 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	167,472.57	5,483.92
23 52 36 00-0012	EA	220 HP, 7,388 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	182,290.83	5,992.74
23 52 36 00-0013	EA	257 HP, 8,606 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	191,667.03	7,010.37
23 52 36 00-0014	EA	294 HP, 9,842 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	233,562.51	8,028.01
23 52 36 00-0015	EA	368 HP, 12,302 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	276,485.69	9,045.64
23 52 36 00-0016	EA	441 HP, 14,766 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	319,855.30	10,176.35
23 52 36 00-0017	EA	514 HP, 17,220 MBH Oil Fired Firebox Boiler, 15 PSI Steam Or 30 PSI Water.....	362,219.04	11,024.37
23 52 39 Fire-Tube Boilers (23 52)				
23 52 39 13 Scotch Marine Boilers (23 52 39)				
23 52 39 13-0001 15 PSI Steam Scotch Marine Boilers (23 52 39 13)				
Note: Includes all standard safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.), setting boilers and controls. Rated by boiler horsepower and MBH gross rated output.				
23 52 39 13-0002 15 PSI Gas Fired Steam Scotch Marine Boilers (23 52 39 13-0001)				
23 52 39 13-0003	EA	30 HP, 1,033 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	64,481.08	1,243.78
23 52 39 13-0004	EA	40 HP, 1,339 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	69,409.40	1,356.85
23 52 39 13-0005	EA	50 HP, 1,674 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	75,387.44	1,469.92
23 52 39 13-0006	EA	60 HP, 2,009 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	78,782.31	1,696.06



Heating, Ventilating, and Air-Conditioning (HVAC)		23
Central Heating Equipment		23 50
Heating Boilers		23 52

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 39 13-0007	EA	70 HP, 2,343 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	82,553.91	1,809.13
23 52 39 13-0008	EA	80 HP, 2,678 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	86,420.02	1,922.20
23 52 39 13-0009	EA	90 HP, 3,013 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	89,087.19	1,978.73
23 52 39 13-0010	EA	100 HP, 3,348 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	94,039.60	2,035.27
23 52 39 13-0011	EA	125 HP, 4,184 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	106,323.10	2,261.41
23 52 39 13-0012	EA	150 HP, 5,021 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	120,811.42	2,487.55
23 52 39 13-0013	EA	175 HP, 5,858 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	132,514.03	2,741.96
23 52 39 13-0014	EA	200 HP, 6,695 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	144,214.32	2,996.37
23 52 39 13-0015	EA	250 HP, 8,369 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	152,143.50	3,505.19
23 52 39 13-0016	EA	300 HP, 10,043 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	185,011.60	4,014.00
23 52 39 13-0017	EA	350 HP, 11,716 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	200,304.80	4,522.83
23 52 39 13-0018	EA	400 HP, 13,390 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	235,817.83	5,031.64
23 52 39 13-0019	EA	500 HP, 16,738 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	286,366.01	5,540.45
23 52 39 13-0020	EA	600 HP, 20,085 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	334,978.03	6,049.28
23 52 39 13-0021	EA	700 HP, 23,433 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	381,517.06	6,558.09
23 52 39 13-0022	EA	800 HP, 26,780 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	426,192.08	7,066.91
23 52 39 13-0023	EA	900 HP, 30,128 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	663,277.17	7,575.72
23 52 39 13-0024	EA	1,000 HP, 33,476 MBH 15 PSI Steam Gas Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	721,661.21	8,084.55
23 52 39 13-0025		15 PSI Oil Fired Steam Scotch Marine Boilers (23 52 39 13-0001)		
23 52 39 13-0026	EA	30 HP, 1,033 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	59,770.52	1,243.78
23 52 39 13-0027	EA	40 HP, 1,339 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	64,344.29	1,356.85
23 52 39 13-0028	EA	50 HP, 1,674 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	69,881.87	1,469.92
23 52 39 13-0029	EA	60 HP, 2,009 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	76,148.44	1,696.06
23 52 39 13-0030	EA	70 HP, 2,343 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	79,447.30	1,809.13
23 52 39 13-0031	EA	80 HP, 2,678 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	82,740.83	1,922.20
23 52 39 13-0032	EA	90 HP, 3,013 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	85,816.16	1,978.73
23 52 39 13-0033	EA	100 HP, 3,348 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	91,946.02	2,035.27
23 52 39 13-0034	EA	125 HP, 4,184 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	106,422.94	2,261.41
23 52 39 13-0035	EA	150 HP, 5,021 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	120,920.07	2,487.55
23 52 39 13-0036	EA	175 HP, 5,858 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	132,634.42	2,741.96
23 52 39 13-0037	EA	200 HP, 6,695 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	144,346.46	2,996.37
23 52 39 13-0038	EA	250 HP, 8,369 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	152,281.50	3,505.19
23 52 39 13-0039	EA	300 HP, 10,043 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	185,181.91	4,014.00
23 52 39 13-0040	EA	350 HP, 11,716 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	200,486.85	4,522.83
23 52 39 13-0041	EA	400 HP, 13,390 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	236,035.12	5,031.64
23 52 39 13-0042	EA	500 HP, 16,738 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	286,630.28	5,540.45
23 52 39 13-0043	EA	600 HP, 20,085 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	335,289.28	6,049.28
23 52 39 13-0044	EA	700 HP, 23,433 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	381,872.36	6,558.09
23 52 39 13-0045	EA	800 HP, 26,780 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	426,591.42	7,066.91
23 52 39 13-0046	EA	900 HP, 30,128 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	663,908.42	7,575.72
23 52 39 13-0047	EA	1,000 HP, 33,476 MBH 15 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	722,351.78	8,084.55

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 39 13-0048			15 PSI Gas/Oil Fired Steam Scotch Marine Boilers (23 52 39 13-0001)		
23 52 39 13-0049	EA		30 HP, 1,033 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	66,542.80	1,243.78
23 52 39 13-0050	EA		40 HP, 1,339 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	71,626.31	1,356.85
23 52 39 13-0051	EA		50 HP, 1,674 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	77,792.27	1,469.92
23 52 39 13-0052	EA		60 HP, 2,009 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	81,771.46	1,696.06
23 52 39 13-0053	EA		70 HP, 2,343 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	85,302.28	1,809.13
23 52 39 13-0054	EA		80 HP, 2,678 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	88,827.78	1,922.20
23 52 39 13-0055	EA		90 HP, 3,013 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	92,132.14	1,978.73
23 52 39 13-0056	EA		100 HP, 3,348 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	95,437.28	2,035.27
23 52 39 13-0057	EA		125 HP, 4,184 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	110,480.90	2,261.41
23 52 39 13-0058	EA		150 HP, 5,021 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	125,544.74	2,487.55
23 52 39 13-0059	EA		175 HP, 5,858 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	137,705.41	2,741.96
23 52 39 13-0060	EA		200 HP, 6,695 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	149,860.83	2,996.37
23 52 39 13-0061	EA		250 HP, 8,369 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	158,042.53	3,505.19
23 52 39 13-0062	EA		300 HP, 10,043 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	192,229.03	4,014.00
23 52 39 13-0063	EA		350 HP, 11,716 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	208,085.99	4,522.83
23 52 39 13-0064	EA		400 HP, 13,390 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	245,031.94	5,031.64
23 52 39 13-0065	EA		500 HP, 16,738 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	297,650.21	5,540.45
23 52 39 13-0066	EA		600 HP, 20,085 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	348,250.10	6,049.28
23 52 39 13-0067	EA		700 HP, 23,433 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	396,691.86	6,558.09
23 52 39 13-0068	EA		800 HP, 26,780 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	443,187.38	7,066.91
23 52 39 13-0069	EA		900 HP, 30,128 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	690,310.91	7,575.72
23 52 39 13-0070	EA		1,000 HP, 33,476 MBH 15 PSI Steam Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	751,101.35	8,084.55
23 52 39 13-0071			125 PSI Water Scotch Marine Boilers (23 52 39 13) Note: Includes all standard safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.), setting boilers and controls. Rated by boiler horsepower and MBH gross rated output.		
23 52 39 13-0072			125 PSI Gas Fired Water Scotch Marine Boilers (23 52 39 13-0071)		
23 52 39 13-0073	EA		40 HP, 1,339 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	76,324.39	1,356.85
23 52 39 13-0074	EA		50 HP, 1,674 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	85,646.87	1,469.92
23 52 39 13-0075	EA		60 HP, 2,009 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	92,022.08	1,696.06
23 52 39 13-0076	EA		70 HP, 2,343 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	98,917.90	1,809.13
23 52 39 13-0077	EA		80 HP, 2,678 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	105,958.16	1,922.20
23 52 39 13-0078	EA		90 HP, 3,013 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	111,555.76	1,978.73
23 52 39 13-0079	EA		100 HP, 3,348 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	120,102.20	2,035.27
23 52 39 13-0080	EA		125 HP, 4,184 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	128,859.20	2,261.41
23 52 39 13-0081	EA		150 HP, 5,021 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	140,481.70	2,487.55
23 52 39 13-0082	EA		175 HP, 5,858 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	149,444.73	2,741.96
23 52 39 13-0083	EA		200 HP, 6,695 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	154,743.89	2,996.37
23 52 39 13-0084	EA		250 HP, 8,369 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	187,314.50	3,505.19
23 52 39 13-0085	EA		300 HP, 10,043 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	218,086.09	4,014.00
23 52 39 13-0086	EA		350 HP, 11,716 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	235,082.33	4,522.83
23 52 39 13-0087	EA		400 HP, 13,390 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	262,288.58	5,031.64



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Heating Boilers			23 52

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 39 13-0088	EA	500 HP, 16,738 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	317,772.67	5,540.45
23 52 39 13-0089	EA	600 HP, 20,085 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	371,913.75	6,049.28
23 52 39 13-0090	EA	700 HP, 23,433 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	423,746.93	6,558.09
23 52 39 13-0091	EA	800 HP, 26,780 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	473,490.00	7,066.91
23 52 39 13-0092	EA	900 HP, 30,128 MBH 125 PSI Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	738,514.95	7,575.72
23 52 39 13-0093	EA	1,000 HP, 33,476 MBH 125 PSI MBH Water Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	803,592.82	8,084.55
23 52 39 13-0094		125 PSI Oil Fired Water Scotch Marine Boilers (23 52 39 13-0071)		
23 52 39 13-0095	EA	40 HP, 1,339 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	70,710.18	1,356.85
23 52 39 13-0096	EA	50 HP, 1,674 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	79,327.95	1,469.92
23 52 39 13-0097	EA	60 HP, 2,009 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	88,900.80	1,696.06
23 52 39 13-0098	EA	70 HP, 2,343 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	95,138.89	1,809.13
23 52 39 13-0099	EA	80 HP, 2,678 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	101,368.72	1,922.20
23 52 39 13-0100	EA	90 HP, 3,013 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	107,377.41	1,978.73
23 52 39 13-0101	EA	100 HP, 3,348 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	117,371.44	2,035.27
23 52 39 13-0102	EA	125 HP, 4,184 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	128,979.59	2,261.41
23 52 39 13-0103	EA	150 HP, 5,021 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	140,610.89	2,487.55
23 52 39 13-0104	EA	175 HP, 5,858 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	149,582.74	2,741.96
23 52 39 13-0105	EA	200 HP, 6,695 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	154,887.77	2,996.37
23 52 39 13-0106	EA	250 HP, 8,369 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	187,487.74	3,505.19
23 52 39 13-0107	EA	300 HP, 10,043 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	218,288.69	4,014.00
23 52 39 13-0108	EA	350 HP, 11,716 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	235,299.62	4,522.83
23 52 39 13-0109	EA	400 HP, 13,390 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	262,532.29	5,031.64
23 52 39 13-0110	EA	500 HP, 16,738 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	318,069.24	5,540.45
23 52 39 13-0111	EA	600 HP, 20,085 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	372,263.17	6,049.28
23 52 39 13-0112	EA	700 HP, 23,433 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	424,146.27	6,558.09
23 52 39 13-0113	EA	800 HP, 26,780 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	473,936.32	7,066.91
23 52 39 13-0114	EA	900 HP, 30,128 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	739,222.46	7,575.72
23 52 39 13-0115	EA	1,000 HP, 33,476 MBH 125 PSI Water Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	804,363.88	8,084.55
23 52 39 13-0116		125 PSI Gas/Oil Fired Water Scotch Marine Boilers (23 52 39 13-0071)		
23 52 39 13-0117	EA	40 HP, 1,339 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	78,779.14	1,356.85
23 52 39 13-0118	EA	50 HP, 1,674 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	88,406.99	1,469.92
23 52 39 13-0119	EA	60 HP, 2,009 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	95,560.32	1,696.06
23 52 39 13-0120	EA	70 HP, 2,343 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	102,265.29	1,809.13
23 52 39 13-0121	EA	80 HP, 2,678 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	108,964.93	1,922.20
23 52 39 13-0122	EA	90 HP, 3,013 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	115,443.42	1,978.73
23 52 39 13-0123	EA	100 HP, 3,348 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	121,922.70	2,035.27
23 52 39 13-0124	EA	125 HP, 4,184 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	133,977.17	2,261.41
23 52 39 13-0125	EA	150 HP, 5,021 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	146,054.79	2,487.55
23 52 39 13-0126	EA	175 HP, 5,858 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	155,358.44	2,741.96
23 52 39 13-0127	EA	200 HP, 6,695 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	160,842.59	2,996.37
23 52 39 13-0128	EA	250 HP, 8,369 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	194,716.91	3,505.19

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 52 Heating Boilers**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 39 13-0129	EA	300 HP, 10,043 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	226,715.87	4,014.00
23 52 39 13-0130	EA	350 HP, 11,716 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	244,349.30	4,522.83
23 52 39 13-0131	EA	400 HP, 13,390 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	272,633.16	5,031.64
23 52 39 13-0132	EA	500 HP, 16,738 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	330,401.70	5,540.45
23 52 39 13-0133	EA	600 HP, 20,085 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	386,765.55	6,049.28
23 52 39 13-0134	EA	700 HP, 23,433 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	440,727.55	6,558.09
23 52 39 13-0135	EA	800 HP, 26,780 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	492,505.48	7,066.91
23 52 39 13-0136	EA	900 HP, 30,128 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	768,764.27	7,575.72
23 52 39 13-0137	EA	1,000 HP, 33,476 MBH 125 PSI Water Gas/Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. 125 PSI Water. Fire tested factory assembled package unit.	836,528.15	8,084.55
23 52 39 13-0138 150 PSI Steam Scotch Marine Boilers (23 52 39 13)				
Note: Includes all standard safety controls (low water cut-off, high/low temperature and pressure operating controls, flame failure, main and pilot gas control, etc.), setting boilers and controls. Rated by boiler horsepower and MBH gross rated output.				
23 52 39 13-0139 150 PSI Gas Fired Steam Scotch Marine Boilers (23 52 39 13-0138)				
23 52 39 13-0140	EA	40 HP, 1,339 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	88,604.00	1,356.85
23 52 39 13-0141	EA	50 HP, 1,674 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	96,238.10	1,469.92
23 52 39 13-0142	EA	60 HP, 2,009 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	100,381.73	1,696.06
23 52 39 13-0143	EA	70 HP, 2,343 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	105,148.73	1,809.13
23 52 39 13-0144	EA	80 HP, 2,678 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	110,039.62	1,922.20
23 52 39 13-0145	EA	90 HP, 3,013 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	113,440.87	1,978.73
23 52 39 13-0146	EA	100 HP, 3,348 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	119,811.51	2,035.27
23 52 39 13-0147	EA	125 HP, 4,184 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	135,509.92	2,261.41
23 52 39 13-0148	EA	150 HP, 5,021 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	154,067.96	2,487.55
23 52 39 13-0149	EA	175 HP, 5,858 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	168,977.00	2,741.96
23 52 39 13-0150	EA	200 HP, 6,695 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	183,883.74	2,996.37
23 52 39 13-0151	EA	250 HP, 8,369 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	193,580.56	3,505.19
23 52 39 13-0152	EA	300 HP, 10,043 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	235,700.95	4,014.00
23 52 39 13-0153	EA	350 HP, 11,716 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	254,947.93	4,522.83
23 52 39 13-0154	EA	400 HP, 13,390 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	300,530.95	5,031.64
23 52 39 13-0155	EA	500 HP, 16,738 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	365,637.30	5,540.45
23 52 39 13-0156	EA	600 HP, 20,085 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	428,202.62	6,049.28
23 52 39 13-0157	EA	700 HP, 23,433 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	488,104.75	6,558.09
23 52 39 13-0158	EA	800 HP, 26,780 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	545,570.29	7,066.91
23 52 39 13-0159	EA	900 HP, 30,128 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	853,174.29	7,575.72
23 52 39 13-0160	EA	1,000 HP, 33,476 MBH 150 PSI Steam Gas Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	928,436.95	8,084.55
23 52 39 13-0161 150 PSI Oil Fired Steam Scotch Marine Boilers (23 52 39 13-0138)				
23 52 39 13-0162	EA	40 HP, 1,339 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	82,017.88	1,356.85
23 52 39 13-0163	EA	50 HP, 1,674 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	89,082.34	1,469.92
23 52 39 13-0164	EA	60 HP, 2,009 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	96,955.07	1,696.06
23 52 39 13-0165	EA	70 HP, 2,343 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	101,111.32	1,809.13
23 52 39 13-0166	EA	80 HP, 2,678 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	105,259.32	1,922.20
23 52 39 13-0167	EA	90 HP, 3,013 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler..... Note: Burnham Series 3. Fire tested factory assembled unit.	109,186.17	1,978.73



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central Heating Equipment			23 50	
Heating Boilers			23 52	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 52 39 13-0168	EA		100 HP, 3,348 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	117,086.62	2,035.27
23 52 39 13-0169	EA		125 HP, 4,184 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	135,636.18	2,261.41
23 52 39 13-0170	EA		150 HP, 5,021 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	154,211.84	2,487.55
23 52 39 13-0171	EA		175 HP, 5,858 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	169,135.56	2,741.96
23 52 39 13-0172	EA		200 HP, 6,695 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	184,056.98	2,996.37
23 52 39 13-0173	EA		250 HP, 8,369 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	193,759.68	3,505.19
23 52 39 13-0174	EA		300 HP, 10,043 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	235,921.17	4,014.00
23 52 39 13-0175	EA		350 HP, 11,716 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	255,185.77	4,522.83
23 52 39 13-0176	EA		400 HP, 13,390 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	300,812.83	5,031.64
23 52 39 13-0177	EA		500 HP, 16,738 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	365,980.85	5,540.45
23 52 39 13-0178	EA		600 HP, 20,085 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	428,607.83	6,049.28
23 52 39 13-0179	EA		700 HP, 23,433 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	488,565.75	6,558.09
23 52 39 13-0180	EA		800 HP, 26,780 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	546,087.08	7,066.91
23 52 39 13-0181	EA		900 HP, 30,128 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	853,996.19	7,575.72
23 52 39 13-0182	EA		1,000 HP, 33,476 MBH 150 PSI Steam Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	929,335.11	8,084.55
23 52 39 13-0183			150 PSI Gas/Oil Fired Steam Scotch Marine Boilers (23 52 39 13-0138)		
23 52 39 13-0184	EA		40 HP, 1,339 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	91,484.51	1,356.85
23 52 39 13-0185	EA		50 HP, 1,674 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	99,365.26	1,469.92
23 52 39 13-0186	EA		60 HP, 2,009 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	104,266.45	1,696.06
23 52 39 13-0187	EA		70 HP, 2,343 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	108,722.21	1,809.13
23 52 39 13-0188	EA		80 HP, 2,678 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	113,169.71	1,922.20
23 52 39 13-0189	EA		90 HP, 3,013 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	117,399.00	1,978.73
23 52 39 13-0190	EA		100 HP, 3,348 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	121,626.14	2,035.27
23 52 39 13-0191	EA		125 HP, 4,184 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	140,912.72	2,261.41
23 52 39 13-0192	EA		150 HP, 5,021 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	160,222.44	2,487.55
23 52 39 13-0193	EA		175 HP, 5,858 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	175,724.62	2,741.96
23 52 39 13-0194	EA		200 HP, 6,695 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	191,227.42	2,996.37
23 52 39 13-0195	EA		250 HP, 8,369 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	201,250.18	3,505.19
23 52 39 13-0196	EA		300 HP, 10,043 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	245,082.43	4,014.00
23 52 39 13-0197	EA		350 HP, 11,716 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	265,063.48	4,522.83
23 52 39 13-0198	EA		400 HP, 13,390 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	312,508.11	5,031.64
23 52 39 13-0199	EA		500 HP, 16,738 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	380,309.99	5,540.45
23 52 39 13-0200	EA		600 HP, 20,085 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	445,456.32	6,049.28
23 52 39 13-0201	EA		700 HP, 23,433 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	507,830.82	6,558.09
23 52 39 13-0202	EA		800 HP, 26,780 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	567,663.01	7,066.91
23 52 39 13-0203	EA		900 HP, 30,128 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	888,316.88	7,575.72
23 52 39 13-0204	EA		1,000 HP, 33,476 MBH 150 PSI Steam Gas/Oil Fired Scotch Marine Boiler Note: Burnham Series 3. Fire tested factory assembled unit.	966,706.16	8,084.55

23 53 Heating Boiler Feedwater Equipment (23 50)

- 23 53 13 Boiler Feedwater Pumps (23 53)
See CSI section 23 53 16 00-0001 for boiler feedwater units.
- 23 53 16 Deaerators (23 53)

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 53 Heating Boiler Feedwater Equipment**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 53 16 00-0001	Boiler Feed System (23 53 16)		
23 53 16 00-0002	Low Pressure Boiler Feed System (23 53 16 00-0001)		
	Note: With deaerator includes pumps and accessories.		
23 53 16 00-0003	EA 20 HP, 200 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	6,770.11	1,282.96
23 53 16 00-0004	EA 34 HP, 340 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	7,302.96	1,511.47
23 53 16 00-0005	EA 54 HP, 530 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	7,847.65	1,564.41
23 53 16 00-0006	EA 67 HP, 660 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	8,097.93	1,621.82
23 53 16 00-0007	EA 78 HP, 760 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	8,568.27	1,733.28
23 53 16 00-0008	EA 104 HP, 1,020 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	13,749.99	1,878.19
23 53 16 00-0009	EA 158 HP, 1,550 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	15,519.41	2,006.38
23 53 16 00-0010	EA 219 HP, 2,150 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	17,792.22	2,285.03
23 53 16 00-0011	EA 254 HP, 2,500 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	19,582.36	2,452.23
23 53 16 00-0012	EA 305 HP, 3,000 KW Boiler Feed System With Deaerator, Pumps And Accessories, Low Pressure System	21,099.16	2,619.43

23 53 16 00-0013	High Pressure Boiler Feed System (23 53 16 00-0001)		
	Note: With deaerator includes pumps and accessories.		
23 53 16 00-0014	EA 10 HP, 100 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	9,429.92	1,093.81
23 53 16 00-0015	EA 20 HP, 200 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	9,818.27	1,282.96
23 53 16 00-0016	EA 34 HP, 340 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	10,921.29	1,511.47
23 53 16 00-0017	EA 54 HP, 530 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	11,806.89	1,564.41
23 53 16 00-0018	EA 67 HP, 660 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	12,011.66	1,621.82
23 53 16 00-0019	EA 78 HP, 760 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	14,509.64	1,733.28
23 53 16 00-0020	EA 104 HP, 1,020 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	18,900.67	1,878.19
23 53 16 00-0021	EA 158 HP, 1,550 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	19,383.76	2,006.38
23 53 16 00-0022	EA 183 HP, 1,800 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	21,327.18	2,148.61
23 53 16 00-0023	EA 219 HP, 2,150 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	22,951.87	2,285.03
23 53 16 00-0024	EA 254 HP, 2,500 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	24,552.80	2,452.23
23 53 16 00-0025	EA 305 HP, 3,000 KW Boiler Feed System With Deaerator, Pumps And Accessories, High Pressure System	26,488.77	2,619.43

23 53 16 00-0026	Boiler Feedwater System (23 53 16)		
	Note: With deaerator includes pumps and accessories.		
23 53 16 00-0027	EA 1,380 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	11,774.65	1,511.47
23 53 16 00-0028	EA 2,600 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	15,367.06	1,731.61
23 53 16 00-0029	EA 4,300 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	20,302.79	1,981.85
23 53 16 00-0030	EA 6,900 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	24,430.82	2,286.15
23 53 16 00-0031	EA 8,500 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	25,926.81	2,452.23
23 53 16 00-0032	EA 11,000 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	27,348.71	2,619.43
23 53 16 00-0033	EA 13,800 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	30,440.95	3,009.68
23 53 16 00-0034	EA 17,250 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	39,401.36	3,455.64
23 53 16 00-0035	EA 20,700 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	51,191.86	3,992.91
23 53 16 00-0036	EA 27,600 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	64,840.94	4,583.45
23 53 16 00-0037	EA 34,500 LB/Hour Feedwater System With Deaerator, Pumps, And Accessories	83,153.52	5,273.42

23 53 16 00-0038	Duplex Vacuum Condensate Pumps (23 53 16)		
23 53 16 00-0039	EA 7 CFM, 15 GPM, 45 Gallon Duplex Vacuum Condensate Pump	33,011.22	891.72
	Note: Two 3/4 HP vacuum pumps rated for 7 CFM, two 3/4 HP condensate pumps rated for 15 GPM at 20 PSI and 45 GAL cast iron receiver. Skidmore JVC-7-45-102.		
23 53 16 00-0040	EA 9 CFM, 30 GPM, 45 Gallon Duplex Vacuum Condensate Pump	33,749.53	947.46
	Note: Two 1 HP vacuum pumps rated for 9 CFM, two 3/4 HP condensate pumps rated for 30 GPM at 15 PSI and 45 GAL cast iron receiver. Skidmore JVC-9-45-201.5.		
23 53 16 00-0041	EA 12 CFM, 45 GPM, 45 Gallon Duplex Vacuum Condensate Pump	34,601.80	1,003.19
	Note: Two 1-1/2 HP vacuum pumps rated for 12 CFM, two 1 HP condensate pumps rated for 45 GPM at 15 PSI and 45 GAL cast iron receiver. Skidmore JVC-12-45-301.5.		
23 53 16 00-0042	EA 18 CFM, 37.5 GPM, 65 Gallon Duplex Vacuum Condensate Pump	33,395.54	1,058.92
	Note: Two 2 HP vacuum pumps rated for 18 CFM, two 1 HP condensate pumps rated for 37.5 GPM at 20 PSI and 65 GAL cast iron receiver. Skidmore JVC-18-65-252.		
23 53 16 00-0043	EA 28 CFM, 60 GPM, 110 Gallon Duplex Vacuum Condensate Pump	45,423.94	1,114.66
	Note: Two 3 HP vacuum pumps rated for 28 CFM, two 1-1/2 HP condensate pumps rated for 60 GPM at 20 PSI and 110 GAL cast iron receiver. Skidmore JVC-28-110-402.		
23 53 16 00-0044	EA 42 CFM, 75 GPM, 110 Gallon Duplex Vacuum Condensate Pump	47,814.80	1,170.39
	Note: Two 5 HP vacuum pumps rated for 42 CFM, two 2 HP condensate pumps rated for 75 GPM at 20 PSI and 110 GAL cast iron receiver. Skidmore JVC-42-110-502.		

23 54 Furnaces (23 50)

Note: All units based on output. See CSI section 23 84 13 00-0000 for humidifiers.

23 54 13 Electric-Resistance Furnaces (23 54)

23 54 13 00-0001	Down Flow Multi-Speed Air Handler/Electric Furnace (23 54 13)		
23 54 13 00-0002	EA Up To 2 Ton Down Flow Multi-Speed Air Handler/Electric Furnace	1,150.36	109.14
	Note: Excludes cooling equipment.		
23 54 13 00-0003	EA >2 To 3.5 Ton Down Flow Multi-Speed Air Handler/Electric Furnace	1,519.21	136.43
	Note: Excludes cooling equipment.		
23 54 13 00-0004	EA >3.5 To 5 Ton Down Flow Multi-Speed Air Handler/Electric Furnace	1,964.54	163.72
	Note: Excludes cooling equipment.		



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Furnaces			23 54

23

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 54 13 00-0005		Up/Horizontal Flow Multi-Speed Air Handler/Electric Furnace (23 54 13)		
23 54 13 00-0006	EA	Up To 2 Ton Up/Horizontal Flow Multi-Speed Air Handler/Electric Furnace Note: Excludes cooling equipment.	1,150.36	109.14
23 54 13 00-0007	EA	>2 To 2.5 Ton Up/Horizontal Flow Multi-Speed Air Handler/ Electric Furnace Note: Excludes cooling equipment.	1,375.42	122.78
23 54 13 00-0008	EA	>2.5 To 3 Ton Up/Horizontal Flow Multi-Speed Air Handler/ Electric Furnace Note: Excludes cooling equipment.	1,503.28	136.43
23 54 13 00-0009	EA	>3 To 3.5 Ton Up/Horizontal Flow Multi-Speed Air Handler/ Electric Furnace Note: Excludes cooling equipment.	1,573.78	150.08
23 54 13 00-0010	EA	>3.5 To 5 Ton Up/Horizontal Flow Multi-Speed Air Handler/ Electric Furnace Note: Excludes cooling equipment.	1,964.54	163.72
23 54 13 00-0011		Heating Coil For Air Handler/Electric Furnace (23 54 13)		
23 54 13 00-0012	EA	5 KW Heating Coil For Air Handler/Electric Furnace	210.81	30.80
23 54 13 00-0013	EA	7 KW Heating Coil For Air Handler/Electric Furnace	240.65	33.88
23 54 13 00-0014	EA	10 KW Heating Coil For Air Handler/Electric Furnace	260.94	36.96
23 54 13 00-0015	EA	15 KW Heating Coil For Air Handler/Electric Furnace	352.92	40.04
23 54 13 00-0016	EA	20 KW Heating Coil For Air Handler/Electric Furnace	381.17	43.11
23 54 16		Fuel-Fired Furnaces (23 54)		
23 54 16 13		Gas-Fired Furnaces (23 54 16)		
23 54 16 13-0001		Natural Gas Fired Forced Air Furnaces (23 54 16 13) Note: Excludes flue, condenser, evaporator coil, piping, thermostat, ductwork and electrical connections.		
23 54 16 13-0002		Up/Horizontal Flow Multi-Speed, Two Stage 96% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0003	EA	40 MBH, 800 CFM Up/Horizontal Flow Multi-Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	1,803.22	95.50
23 54 16 13-0004	EA	60 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	1,921.52	109.14
23 54 16 13-0005	EA	80 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	2,216.68	122.78
23 54 16 13-0006	EA	100 MBH, 1,600 CFM Up/Horizontal Flow Multi-Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	2,591.90	150.08
23 54 16 13-0007	EA	120 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	2,765.97	163.72
23 54 16 13-0008		Up/Horizontal Flow Variable Speed, Two Stage 95% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0009	EA	40 MBH, 1,200 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	2,007.15	95.50
23 54 16 13-0010	EA	60 MBH, 1,200 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	2,198.75	109.14
23 54 16 13-0011	EA	80 MBH, 1,200 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	2,332.62	122.78
23 54 16 13-0012	EA	80 MBH, 1,600 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3.5 tons.	3,044.66	136.43
23 54 16 13-0013	EA	100 MBH, 2,000 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	2,752.82	150.08
23 54 16 13-0014	EA	120 MBH, 2,000 CFM Up/Horizontal Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	2,902.99	163.72
23 54 16 13-0015		Down Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0016	EA	45 MBH, 1,600 CFM Down Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	1,768.09	95.50
23 54 16 13-0017	EA	70 MBH, 1,600 CFM Down Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	2,029.80	109.14
23 54 16 13-0018	EA	90 MBH, 1,600 CFM Down Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	2,202.67	136.43
23 54 16 13-0019	EA	90 MBH, 2,000 CFM Down Flow Multi-Speed, Two Stage 95% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	2,352.84	150.08
23 54 16 13-0020		Down Flow Variable Speed, Two Stage 93% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0021	EA	40 MBH, 1,200 CFM Down Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	2,319.44	95.50
23 54 16 13-0022	EA	60 MBH, 1,200 CFM Down Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 3 tons.	2,444.12	109.14
23 54 16 13-0023	EA	80 MBH, 1,600 CFM Down Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	2,721.75	122.78
23 54 16 13-0024	EA	100 MBH, 2,000 CFM Down Flow Variable Speed, Two Stage 96% AFUE Gas Furnace Note: Blower cooling capacity up to 4 tons.	2,974.29	150.08
23 54 16 13-0025	EA	120 MBH, 2,000 CFM Down Flow Variable Speed, Two Stage 93% AFUE Gas Furnace Note: Blower cooling capacity up to 5 tons.	3,188.19	163.72
23 54 16 13-0026		Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace (23 54 16 13-0001)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 54 Furnaces**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 54 16 13-0027	EA	40 MBH, 800 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace..... Note: Blower cooling capacity up to 3 tons.	1,608.83	95.50
23 54 16 13-0028	EA	60 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace..... Note: Blower cooling capacity up to 3 tons.	1,696.86	109.14
23 54 16 13-0029	EA	80 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace..... Note: Blower cooling capacity up to 3 tons.	1,893.24	122.78
23 54 16 13-0030	EA	80 MBH, 1,600 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace..... Note: Blower cooling capacity up to 4 tons.	1,909.17	122.78
23 54 16 13-0031	EA	80 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace..... Note: Blower cooling capacity up to 5 tons.	2,083.24	136.43
23 54 16 13-0032	EA	100 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace..... Note: Blower cooling capacity up to 5 tons.	2,196.76	150.08
23 54 16 13-0033	EA	120 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 96% AFUE Gas Furnace..... Note: Blower cooling capacity up to 5 tons.	2,329.40	163.72
23 54 16 13-0034		Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0035	EA	40 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace..... Note: Blower cooling capacity up to 3 tons.	1,119.68	95.50
23 54 16 13-0036	EA	60 MBH, 1,200 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace..... Note: Blower cooling capacity up to 3 tons.	1,225.25	109.14
23 54 16 13-0037	EA	60 MBH, 1,600 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace..... Note: Blower cooling capacity up to 4 tons.	1,400.91	122.78
23 54 16 13-0038	EA	80 MBH, 1,600 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace..... Note: Blower cooling capacity up to 4 tons.	1,402.50	122.78
23 54 16 13-0039	EA	80 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace..... Note: Blower cooling capacity up to 5 tons.	1,539.92	136.43
23 54 16 13-0040	EA	100 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace..... Note: Blower cooling capacity up to 5 tons.	1,581.75	150.08
23 54 16 13-0041	EA	120 MBH, 2,000 CFM Up/Horizontal Flow Multi-Speed, One Stage 80% AFUE Gas Furnace..... Note: Blower cooling capacity up to 5 tons.	1,757.41	163.72
23 54 16 13-0042		Down Flow Multi-Speed, One Stage 80% AFUE Gas Furnace (23 54 16 13-0001)		
23 54 16 13-0043	EA	40 MBH, 1,200 CFM Down Flow Multi-Speed, One Stage 80% AFUE Gas Furnace..... Note: Blower cooling capacity up to 3 tons.	1,135.62	95.50
23 54 16 13-0044	EA	60 MBH, 1,200 CFM Down Flow Multi-Speed, One Stage 80% AFUE Gas Furnace..... Note: Blower cooling capacity up to 3 tons.	1,230.03	109.14
23 54 16 13-0045	EA	80 MBH, 1,600 CFM Down Flow Multi-Speed, One Stage 80% AFUE Gas Furnace..... Note: Blower cooling capacity up to 4 tons.	1,472.61	122.78
23 54 16 13-0046	EA	100 MBH, 2,000 CFM Down Flow Multi-Speed, One Stage 80% AFUE Gas Furnace..... Note: Blower cooling capacity up to 5 tons.	1,621.18	136.43
23 54 16 13-0047		75% AFUE Gas Wall/Recessed Furnace (23 54 16 13-0001)		
23 54 16 13-0048	EA	35 MBH 75% AFUE Electronic Ignition Gas Wall/Recessed Furnace.....	1,922.24	81.86
23 54 16 13-0049	EA	55 MBH 75% AFUE Electronic Ignition Gas Wall/Recessed Furnace.....	2,219.20	102.37
23 54 16 13-0050	EA	35 MBH 75% AFUE Gas Wall/Recessed Furnace.....	1,739.01	81.86
23 54 16 13-0051	EA	40 MBH 75% AFUE Gas Wall/Recessed Furnace.....	1,858.72	88.73
23 54 16 13-0052	EA	50 MBH 75% AFUE Gas Wall/Recessed Furnace.....	1,842.98	95.50
23 54 16 13-0053	EA	65 MBH 75% AFUE Gas Wall/Recessed Furnace.....	1,899.03	102.37
23 54 16 13-0054	EA	75 MBH 75% AFUE Gas Wall/Recessed Furnace.....	1,966.06	102.37
23 54 16 13-0055		Gas Fired Indoor Duct Furnace (23 54 16 13-0001) Note: Includes burner, controls, and electronic ignition.		
23 54 16 13-0056		Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace (23 54 16 13-0055)		
23 54 16 13-0057	EA	100 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	2,769.13	212.83
23 54 16 13-0058	EA	150 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	3,075.48	261.95
23 54 16 13-0059	EA	200 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	3,461.98	376.54
23 54 16 13-0060	EA	250 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	3,904.36	425.66
23 54 16 13-0061	EA	300 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	4,552.56	491.15
23 54 16 13-0062	EA	350 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	4,984.77	589.38
23 54 16 13-0063	EA	400 MBH, Aluminized Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	5,645.13	785.84
23 54 16 13-0064		Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace (23 54 16 13-0055) Note: Includes burner, controls and electronic ignition.		
23 54 16 13-0065	EA	100 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	3,110.90	212.83
23 54 16 13-0066	EA	150 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	3,412.14	261.95
23 54 16 13-0067	EA	200 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	3,924.47	376.54
23 54 16 13-0068	EA	250 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	4,450.16	425.66
23 54 16 13-0069	EA	300 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	5,494.54	491.15
23 54 16 13-0070	EA	350 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	6,006.67	589.38
23 54 16 13-0071	EA	400 MBH, Stainless Steel Heat Exchanger Gas Fired Indoor Duct Furnace.....	6,610.91	785.84
23 54 16 16		Oil-Fired Furnaces (23 54 16)		
23 54 16 16-0001		Oil Fired Forced Air Furnaces (23 54 16 16) Note: Excludes flue, condenser, evaporator coil, piping, thermostat, ductwork and electrical connections.		



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Furnaces			23 54

MINOR			TOTAL DIRECT		DEMOLITION
CSI UOM DESCRIPTION			UNIT COST	UNIT COST	UNIT COST
23 54 16 16-0002	Up Flow Single Speed, One Stage 81% AFUE Oil Furnace (23 54 16 16-0001)				
23 54 16 16-0003	EA	72 MBH, 1,220 CFM Up Flow Single Speed, One Stage 84% AFUE Oil Furnace.....	3,100.56		109.14
		Note: Blower cooling capacity up to 3 tons.			
23 54 16 16-0004	EA	95 MBH, 1,590 CFM Up Flow Single Speed, One Stage 83% AFUE Oil Furnace.....	3,299.32		150.08
		Note: Blower cooling capacity up to 4 tons.			
23 54 16 16-0005	EA	126 MBH, 1,835 CFM Up Flow Single Speed, One Stage 83% AFUE Oil Furnace.....	3,808.38		177.36
		Note: Blower cooling capacity up to 5 tons.			
23 54 16 16-0006	Down/Horizontal Flow Single Speed, One Stage 81% AFUE Oil Furnace (23 54 16 16-0001)				
23 54 16 16-0007	EA	95 MBH, 1,210 CFM Down/Horizontal Flow Single Speed, One Stage 83% AFUE Oil Furnace.....	3,595.68		150.08
		Note: Blower cooling capacity up to 3 tons.			
23 54 16 16-0008	EA	126 MBH, 2,005 CFM Down/Horizontal Flow Single Speed, One Stage 84% AFUE Oil Furnace.....	3,628.34		177.36
		Note: Blower cooling capacity up to 5 tons.			
23 54 16 16-0009	Up Flow Lowboy Single Speed, One Stage 81% AFUE Oil Furnace (23 54 16 16-0001)				
23 54 16 16-0010	EA	95 MBH, 1,550 CFM Up Flow Lowboy Single Speed, One Stage 83% AFUE Oil Furnace	3,111.31		150.08
		Note: Blower cooling capacity up to 4 tons.			
23 54 16 16-0011	EA	127 MBH, 2,130 CFM Up Flow Lowboy Single Speed, One Stage 83% AFUE Oil Furnace	3,693.67		177.36
		Note: Blower cooling capacity up to 5 tons.			
23 54 19	Furnace Accessories (23 54)				
23 54 19 00-0001	EA	LP Gas Furnace Conversion Kit	199.44		27.29
23 54 19 00-0002	EA	1" Furnace External Filter Rack	61.39		
23 54 19 00-0003	EA	Removal And Reinstallation Of Forced Air Furnace	505.30		
		Note: Includes storage and cleaning. Excludes ductwork.			
23 55	Fuel-Fired Heaters (23 50)				
23 55 23	Gas-Fired Radiant Heaters (23 55)				
23 55 23 13	Low-Intensity Gas-Fired Radiant Heaters (23 55 23)				
23 55 23 13-0001	Infrared Heaters-Radiant Energy (23 55 23 13)				
		Note: For spot localized or total heating, ceiling hung units, no fan required.			
23 55 23 13-0002	Gas Fired Electric Ignition Infrared Gas Heater (23 55 23 13-0001)				
		Note: Ceramic combustion, surface chromized wire screen aluminized steel housing and polished aluminum reflector.			
23 55 23 13-0003	EA	15,000 BTU Infrared Gas Heater, Electric Ignition, Ceiling Hung Unit Without Fan.....	950.93		111.47
23 55 23 13-0004	EA	37,500 BTU Infrared Gas Heater, Electric Ignition, Ceiling Hung Unit Without Fan.....	1,049.89		122.61
23 55 23 13-0005	EA	50,000 BTU Infrared Gas Heater, Electric Ignition, Ceiling Hung Unit Without Fan.....	1,123.30		122.61
23 55 23 13-0006	EA	75,000 BTU Infrared Gas Heater, Electric Ignition, Ceiling Hung Unit Without Fan.....	1,409.13		147.14
23 55 23 13-0007	EA	100,000 BTU Infrared Gas Heater, Electric Ignition, Ceiling Hung Unit Without Fan.....	1,421.50		147.14
23 55 23 13-0008	Rolled Steel Or Aluminum Housing Infrared Electric Heater (23 55 23 13-0001)				
		Note: Anodized aluminum reflector and quartz/tungsten tubular element with an inner heavy-duty coiled element.			
23 55 23 13-0009	EA	1,000 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required	1,064.35		120.05
		For Stainless Steel Housing, Add	175.14		
23 55 23 13-0010	EA	3,200 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required	1,139.80		120.05
		For Stainless Steel Housing, Add	194.00		
23 55 23 13-0011	EA	5,000 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required	1,226.02		120.05
		For Stainless Steel Housing, Add	215.55		
23 55 23 13-0012	EA	7,300 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required	1,329.67		120.05
		For Stainless Steel Housing, Add	241.47		
23 55 23 13-0013	EA	10,950 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required	1,452.81		130.97
		For Stainless Steel Housing, Add	269.06		
23 55 23 13-0014	EA	13,500 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required	1,552.33		141.88
		For Stainless Steel Housing, Add	289.76		
23 55 23 13-0015	EA	24,000 Watt Infrared Elect Heater, Ceiling Hung Unit, No Fan Required	2,506.71		152.81
		For Stainless Steel Housing, Add	517.43		
23 55 23 13-0016	Gas Fired Tubular Infrared Heater (23 55 23 13-0001)				
		Note: Per Tube Length. Includes controls and supports.			
23 55 23 13-0017	"U" Package (23 55 23 13-0016)				
23 55 23 13-0018	LF	Up To 75 MBH Input Radiant Heater	94.43		5.57
23 55 23 13-0019	LF	76 To 105 MBH Input Radiant Heater.....	108.87		6.69
23 55 23 13-0020	LF	106 To 130 MBH Input Radiant Heater.....	133.31		7.80
23 55 23 13-0021	"S" Straight Package (23 55 23 13-0016)				
23 55 23 13-0022	LF	Up To 75 MBH Input Radiant Heater	76.66		4.46
23 55 23 13-0023	LF	76 To 105 MBH Input Radiant Heater.....	97.76		5.57
23 55 23 13-0024	LF	106 To 130 MBH Input Radiant Heater.....	118.86		6.69

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 50 Central Heating Equipment****23 55 Fuel-Fired Heaters**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 55 33 Fuel-Fired Unit Heaters (23 55)**23 55 33 00-0001 Oil-Fired Unit Heaters (23 55 33)****23 55 33 00-0002 Oil Fired Unit Heater (23 55 33 00-0001)****23 55 33 00-0003 Horizontal Fan Propelled Oil Fired Unit Heater, 115 Volt (23 55 33 00-0002)**

23 55 33 00-0004	EA	97 MBH Output, 2,000 CFM Oil Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	8,350.36	513.31
23 55 33 00-0005	EA	142 MBH Output, 3,200 CFM Oil Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	8,955.13	564.64
23 55 33 00-0006	EA	188 MBH Output, 3,200 CFM Oil Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	9,617.13	615.98

23 55 33 00-0007 Gas-Fired Unit Heaters (23 55 33)**23 55 33 00-0008 Removal And Reinstallation Of Unit Heaters (23 55 33 00-0007)**

Note: Includes disconnection/reconnection of power and piping, storage, cleaning and reinstallation. Excludes removal and reinstallation of equipment supports.

23 55 33 00-0009	EA	Removal And Reinstallation Of Up To 101.3 MBH Output Gas or Oil Unit Heater	640.92	
23 55 33 00-0010	EA	Removal And Reinstallation Of >101.3 MBH Output Gas or Oil Unit Heater	863.85	

23 55 33 00-0011 Gas Fired Unit Heaters (23 55 33 00-0007)**23 55 33 00-0012 Horizontal Fan Propelled Gas Fired Unit Heaters, 115 Volt (23 55 33 00-0011)**

23 55 33 00-0013	EA	24.3 MBH Output, 30 MBH Input, 500 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,077.59	192.49
23 55 33 00-0014	EA	36.5 MBH Output, 45 MBH Input, 750 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,270.90	230.99
23 55 33 00-0015	EA	48.6 MBH Output, 60 MBH Input, 1,000 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,306.35	230.99
23 55 33 00-0016	EA	60.8 MBH Output, 75 MBH Input, 1,250 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,516.75	269.49
23 55 33 00-0017	EA	72.9 MBH Output, 90 MBH Input, 1,400 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,766.80	307.99
23 55 33 00-0018	EA	81 MBH Output, 100 MBH Input, 1,600 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,969.85	327.24
23 55 33 00-0019	EA	101.3 MBH Output, 125 MBH Input, 2,200 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	3,059.25	327.24
23 55 33 00-0020	EA	121.5 MBH Output, 150 MBH Input, 2,400 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	2,982.64	327.24
23 55 33 00-0021	EA	141.8 MBH Output, 175 MBH Input, 2,850 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	3,553.17	346.49
23 55 33 00-0022	EA	162 MBH Output, 200 MBH Input, 3,200 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	3,902.19	346.49
23 55 33 00-0023	EA	202.5 MBH Output, 250 MBH Input, 3,450 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	4,191.62	346.49
23 55 33 00-0024	EA	243 MBH Output, 300 MBH Input, 5,000 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	5,015.03	384.99
23 55 33 00-0025	EA	283.5 MBH Output, 350 MBH Input, 5,600 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	5,670.51	384.99
23 55 33 00-0026	EA	324 MBH Output, 400 MBH Input, 5,800 CFM Gas Fired Unit Heater Fan Propelled, Horizontal, 115 Volt	6,082.26	423.49

23 57 Heat Exchangers for HVAC (23 50)**23 57 13 Steam-To-Steam Heat Exchangers (23 57)****23 57 13 00-0001 Steam Generator Heat Exchanger (23 57 13)**

Note: 35 PSI generated steam using 180 degree feed water; 400 degree F water to valve.

23 57 13 00-0002	EA	75 LB/Hour Steam Generator Heat Exchanger, 35 PSI	21,749.16	1,783.44
23 57 13 00-0003	EA	300 LB/Hour Steam Generator Heat Exchanger, 35 PSI	29,460.24	1,894.91
23 57 13 00-0004	EA	525 LB/Hour Steam Generator Heat Exchanger, 35 PSI	39,810.86	2,376.70

23 57 16 Steam-To-Water Heat Exchangers (23 57)**23 57 16 00-0001 Heat Exchanger, Hot Water 40 To 180 Degree By Steam 10 PSI (23 57 16)**

Note: Cast iron head steel shell 4 pass 3/4" outside diameter copper tubes. Excludes controls expansion tank and accessories.

23 57 16 00-0002	EA	8 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube	2,536.54	278.67
		For Bronze Head And Tube Sheet, Add	974.24	
		For Copper Nickel Tubes, Add	216.50	
		For Double Wall Tube Bundles, Add	324.75	
23 57 16 00-0003	EA	10 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube	3,724.27	278.67
		For Bronze Head And Tube Sheet, Add	1,475.28	
		For Copper Nickel Tubes, Add	327.84	
		For Double Wall Tube Bundles, Add	491.76	
23 57 16 00-0004	EA	40 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube	5,629.56	390.13
		For Bronze Head And Tube Sheet, Add	2,282.51	
		For Copper Nickel Tubes, Add	507.22	
		For Double Wall Tube Bundles, Add	760.84	
23 57 16 00-0005	EA	64 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube	8,846.74	390.13
		For Bronze Head And Tube Sheet, Add	3,479.44	
		For Copper Nickel Tubes, Add	773.21	
		For Double Wall Tube Bundles, Add	1,159.81	
23 57 16 00-0006	EA	96 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube	11,661.51	459.24
		For Bronze Head And Tube Sheet, Add	4,620.69	
		For Copper Nickel Tubes, Add	1,026.82	
		For Double Wall Tube Bundles, Add	1,540.23	
23 57 16 00-0007	EA	120 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube	15,355.49	589.20
		For Bronze Head And Tube Sheet, Add	6,068.13	
		For Copper Nickel Tubes, Add	1,348.47	
		For Double Wall Tube Bundles, Add	2,022.71	
23 57 16 00-0008	EA	168 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube	18,947.69	884.35
		For Bronze Head And Tube Sheet, Add	7,432.07	
		For Copper Nickel Tubes, Add	1,651.57	
		For Double Wall Tube Bundles, Add	2,477.36	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Heating Equipment			23 50
Heat Exchangers for HVAC			23 57

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

23 57 16 00-0009	EA		240 GPM Heat Exchanger By Steam At 10 PSI, 40-180 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....	28,772.33	884.35
			For Bronze Head And Tube Sheet, Add	11,579.56	
			For Copper Nickel Tubes, Add	2,573.24	
			For Double Wall Tube Bundles, Add	3,859.85	

23 57 19 Liquid-To-Liquid Heat Exchangers (23 57)

23 57 19 13 Plate-Type, Liquid-To-Liquid Heat Exchangers (23 57 19)

23 57 19 13-0001			Plate And Frame Heat Exchanger (23 57 19 13)		
23 57 19 13-0002	EA		8" W x 18-7/8"H Plate And Frame Heat Exchanger.....	4,003.46	278.67
23 57 19 13-0003	EA		8" W x 24-9/16"H Plate And Frame Heat Exchanger.....	5,348.30	278.67
23 57 19 13-0004	EA		11-3/16" W x 34-11/16"H Plate And Frame Heat Exchanger.....	7,140.76	334.40
23 57 19 13-0005	EA		16-3/4" W x 46-1/4"H Plate And Frame Heat Exchanger.....	9,718.14	362.27
23 57 19 13-0006	EA		16-1/2" W x 49-5/8"H Plate And Frame Heat Exchanger.....	10,642.71	362.27
23 57 19 13-0007	EA		24" W x 57-11/16"H Plate And Frame Heat Exchanger.....	13,892.50	390.13
23 57 19 13-0008	EA		26-5/16" W x 56-5/8"H Plate And Frame Heat Exchanger.....	14,648.97	390.13
23 57 19 13-0009	EA		24-1/4" W x 68-3/8"H Plate And Frame Heat Exchanger.....	18,122.43	445.87
23 57 19 13-0010	EA		24" W x 69-11/16"H Plate And Frame Heat Exchanger.....	22,184.27	501.59
23 57 19 13-0011	EA		26-5/16" W x 68-3/4"H Plate And Frame Heat Exchanger.....	23,024.80	501.59
23 57 19 13-0012	EA		24" W x 89-13/16"H Plate And Frame Heat Exchanger.....	28,532.97	596.94
23 57 19 13-0013	EA		26-5/16" W x 88-9/16"H Plate And Frame Heat Exchanger.....	34,454.00	656.52
23 57 19 13-0014	EA		40-13/16" W x 89-1/4"H Plate And Frame Heat Exchanger.....	39,786.54	716.10

23 57 19 19 Copper Tube, Water-To-Water Heat Exchanger (23 57 19)

23 57 19 19-0001			Heat Exchanger Hot Water 40-140 Degree By Water At 200 Degree F (23 57 19 19)		
			Note: Cast iron head steel shell 4 pass 3/4" outside diameter copper tubes.		
23 57 19 19-0002	EA		7 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....	3,031.39	278.67
			For Copper Nickel Tubes, Add	265.98	
			For Double Wall Tube Bundles, Add	398.97	
23 57 19 19-0003	EA		16 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....	4,219.12	278.67
			For Copper Nickel Tubes, Add	377.33	
			For Double Wall Tube Bundles, Add	565.99	
23 57 19 19-0004	EA		34 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....	6,309.99	390.13
			For Copper Nickel Tubes, Add	575.27	
			For Double Wall Tube Bundles, Add	862.90	
23 57 19 19-0005	EA		55 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....	9,031.89	390.13
			For Copper Nickel Tubes, Add	828.88	
			For Double Wall Tube Bundles, Add	1,243.32	
23 57 19 19-0006	EA		74 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....	11,175.60	445.87
			For Copper Nickel Tubes, Add	1,020.63	
			For Double Wall Tube Bundles, Add	1,530.95	
23 57 19 19-0007	EA		86 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....	14,905.49	445.87
			For Copper Nickel Tubes, Add	1,373.22	
			For Double Wall Tube Bundles, Add	2,059.83	
23 57 19 19-0008	EA		112 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....	18,503.00	442.18
			For Copper Nickel Tubes, Add	1,707.24	
			For Double Wall Tube Bundles, Add	2,560.86	
23 57 19 19-0009	EA		126 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....	23,015.80	442.18
			For Copper Nickel Tubes, Add	2,127.87	
			For Double Wall Tube Bundles, Add	3,191.80	
23 57 19 19-0010	EA		152 GPM Heat Exchanger By 200 Degree Water, 40-140 Degree, 4 Pass 3/4" Outside Diameter Copper Tube.....	29,427.81	442.18
			For Copper Nickel Tubes, Add	2,721.69	
			For Double Wall Tube Bundles, Add	4,082.54	

23 57 19 23 Refrigerant-To-Water Heat Exchanger (23 57 19)

23 57 19 23-0001			Heat Exchanger Refrigerant To Water (23 57 19 23)		
23 57 19 23-0002	EA		10 GPM Heat Exchanger By 385 Degree Water, 40-180 Degree, 3 Pass 3/4" Outside Diameter Copper Tube.....	3,423.27	222.93
			For Copper Nickel Tubes, Add	297.74	
			For Double Wall Tube Bundles, Add	446.61	
23 57 19 23-0003	EA		53 GPM Heat Exchanger By 385 Degree Water, 40-180 Degree, 3 Pass 3/4" Outside Diameter Copper Tube.....	9,163.68	371.52
			For Copper Nickel Tubes, Add	842.06	
			For Double Wall Tube Bundles, Add	1,263.09	
23 57 19 23-0004	EA		70 GPM Heat Exchanger By 385 Degree Water, 40-180 Degree, 3 Pass 3/4" Outside Diameter Copper Tube.....	12,351.07	484.65
			For Copper Nickel Tubes, Add	1,138.35	
			For Double Wall Tube Bundles, Add	1,707.52	
23 57 19 23-0005	EA		87 GPM Heat Exchanger By 385 Degree Water, 40-180 Degree, 3 Pass 3/4" Outside Diameter Copper Tube.....	13,236.55	586.64
			For Copper Nickel Tubes, Add	1,206.57	
			For Double Wall Tube Bundles, Add	1,809.86	
23 57 19 23-0006	EA		105 GPM Heat Exchanger By 385 Degree Water, 40-180 Degree, 3 Pass 3/4" Outside Diameter Copper Tube.....	15,984.83	702.28
			For Copper Nickel Tubes, Add	1,455.76	
			For Double Wall Tube Bundles, Add	2,183.64	

23 60 Central Cooling Equipment (23)

Note: Where required, mechanical equipment excludes electrical connection, disconnect, or starter unless title states otherwise. See CSI section 26 05 19 16-0011 for electrical connection and termination, 26 05 83 00-0130 for terminations, 26 28 16 16-0001 for disconnect.

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 61 Refrigerant Compressors**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST**23 61 Refrigerant Compressors** (23 60)**23 61 16 Reciprocating Refrigerant Compressors** (23 61)**23 61 16 00-0001 Reciprocating Open Type Refrigerant Compressors** (23 61 16)

Note: Includes manual reversible oil pump and automatic pressure regulator. Excludes muffler, vibration isolators, crank case oil heaters, couplings and flywheel.

23 61 16 00-0002	EA	1/4 Ton Refrigerant Compressor, Reciprocating Open Type	709.88	105.67
23 61 16 00-0003	EA	1/3 Ton Refrigerant Compressor, Reciprocating Open Type	847.40	105.67
23 61 16 00-0004	EA	1/2 Ton Refrigerant Compressor, Reciprocating Open Type	1,152.36	132.05
23 61 16 00-0005	EA	3/4 Ton Refrigerant Compressor, Reciprocating Open Type	1,436.00	132.05
23 61 16 00-0006	EA	1 Ton Refrigerant Compressor, Reciprocating Open Type	1,607.90	132.05
23 61 16 00-0007	EA	1-1/4 Ton Refrigerant Compressor, Reciprocating Open Type	1,628.49	137.38
23 61 16 00-0008	EA	1-1/2 Ton Refrigerant Compressor, Reciprocating Open Type	1,636.52	137.38
23 61 16 00-0009	EA	1-3/4 Ton Refrigerant Compressor, Reciprocating Open Type	1,800.06	147.95
23 61 16 00-0010	EA	2 Ton Refrigerant Compressor, Reciprocating Open Type	1,935.80	158.52
23 61 16 00-0011	EA	2-1/2 Ton Refrigerant Compressor, Reciprocating Open Type	2,111.63	169.08
23 61 16 00-0012	EA	3 Ton Refrigerant Compressor, Reciprocating Open Type	2,406.73	169.08
23 61 16 00-0013	EA	3-1/2 Ton Refrigerant Compressor, Reciprocating Open Type	2,702.91	179.64
23 61 16 00-0014	EA	4 Ton Refrigerant Compressor, Reciprocating Open Type	2,758.44	190.22
23 61 16 00-0015	EA	4-1/2 Ton Refrigerant Compressor, Reciprocating Open Type	2,803.36	195.46
23 61 16 00-0016	EA	5 Ton Refrigerant Compressor, Reciprocating Open Type	4,043.24	1,023.18
23 61 16 00-0017	EA	7.5 Ton Refrigerant Compressor, Reciprocating Open Type	6,172.19	1,169.30
23 61 16 00-0018	EA	10 Ton Refrigerant Compressor, Reciprocating Open Type	8,301.30	1,315.52
23 61 16 00-0019	EA	12.5 Ton Refrigerant Compressor, Reciprocating Open Type	11,032.84	1,425.05
23 61 16 00-0020	EA	15 Ton Refrigerant Compressor, Reciprocating Open Type	13,764.70	1,534.77
23 61 16 00-0021	EA	20 Ton Refrigerant Compressor, Reciprocating Open Type	16,517.65	1,841.73
23 61 16 00-0022	EA	25 Ton Refrigerant Compressor, Reciprocating Open Type	19,924.78	1,979.50
23 61 16 00-0023	EA	30 Ton Refrigerant Compressor, Reciprocating Open Type	23,197.86	2,092.88
23 61 16 00-0024	EA	50 Ton Refrigerant Compressor, Reciprocating Open Type	30,476.88	2,361.22
23 61 16 00-0025	EA	60 Ton Refrigerant Compressor, Reciprocating Open Type	36,013.80	2,423.14
23 61 16 00-0026	EA	70 Ton Refrigerant Compressor, Reciprocating Open Type	45,178.89	2,484.96
23 61 16 00-0027	EA	75 Ton Refrigerant Compressor, Reciprocating Open Type	47,467.11	2,515.98
23 61 16 00-0028	EA	80 Ton Refrigerant Compressor, Reciprocating Open Type	49,659.01	2,546.89
23 61 16 00-0029	EA	90 Ton Refrigerant Compressor, Reciprocating Open Type	53,761.02	2,608.72
23 61 16 00-0030	EA	100 Ton Refrigerant Compressor, Reciprocating Open Type	57,483.56	2,670.74
23 61 16 00-0031	EA	110 Ton Refrigerant Compressor, Reciprocating Open Type	61,635.70	3,127.42
23 61 16 00-0032	EA	120 Ton Refrigerant Compressor, Reciprocating Open Type	64,604.66	3,197.41
23 61 16 00-0033	EA	130 Ton Refrigerant Compressor, Reciprocating Open Type	67,151.10	3,238.11
23 61 16 00-0034	EA	140 Ton Refrigerant Compressor, Reciprocating Open Type	69,405.69	3,338.30
23 61 16 00-0035	EA	150 Ton Refrigerant Compressor, Reciprocating Open Type	71,235.17	3,408.28
23 61 16 00-0036	EA	175 Ton Refrigerant Compressor, Reciprocating Open Type	73,098.96	3,501.68
23 61 16 00-0037	EA	185 Ton Refrigerant Compressor, Reciprocating Open Type	74,878.11	3,539.33
23 61 16 00-0038	EA	200 Ton Refrigerant Compressor, Reciprocating Open Type	76,689.82	3,597.91
23 61 16 00-0039	EA	225 Ton Refrigerant Compressor, Reciprocating Open Type	78,791.13	3,840.55
23 61 16 00-0040	EA	250 Ton Refrigerant Compressor, Reciprocating Open Type	80,834.59	4,047.59

23 61 16 00-0041 Reciprocating Hermetic Type Refrigerant Compressors (23 61 16)

Note: Includes automatic reversible oil pump, suction and discharge shut-off valves, device for loading and unloading compressor cylinders and crank case oil heater. Excludes mufflers and vibration isolators.

23 61 16 00-0042 Reciprocating Hermetic Type Refrigerant Compressors <5 Tons (23 61 16 00-0041)

23 61 16 00-0043	EA	1/4 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,078.61	105.67
23 61 16 00-0044	EA	1/3 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,115.52	105.67
23 61 16 00-0045	EA	1/2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,205.26	132.05
23 61 16 00-0046	EA	3/4 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,242.15	132.05
23 61 16 00-0047	EA	1 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,260.60	132.05
23 61 16 00-0048	EA	1-1/4 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,300.69	137.38
23 61 16 00-0049	EA	1-1/2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,341.29	137.38
23 61 16 00-0050	EA	1-3/4 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,439.92	147.95
23 61 16 00-0051	EA	2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,534.88	158.52
23 61 16 00-0052	EA	2-1/2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,666.71	169.08
23 61 16 00-0053	EA	3 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,740.53	169.08
23 61 16 00-0054	EA	3-1/2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	1,872.36	179.64
23 61 16 00-0055	EA	4 Ton Refrigerant Compressor, Reciprocating Hermetic Type	2,225.65	190.22
23 61 16 00-0056	EA	4-1/2 Ton Refrigerant Compressor, Reciprocating Hermetic Type	2,439.17	195.46

23 61 16 00-0057 Reciprocating Hermetic Type Refrigerant Compressors (23 61 16 00-0041)

23 61 16 00-0058	EA	5 Ton Refrigerant Compressor, Reciprocating Hermetic Type	3,053.00	526.21
23 61 16 00-0059	EA	10 Ton Refrigerant Compressor, Reciprocating Hermetic Type	5,836.71	657.75
23 61 16 00-0060	EA	15 Ton Refrigerant Compressor, Reciprocating Hermetic Type	9,770.08	800.77
23 61 16 00-0061	EA	20 Ton Refrigerant Compressor, Reciprocating Hermetic Type	12,453.42	920.86
23 61 16 00-0062	EA	25 Ton Refrigerant Compressor, Reciprocating Hermetic Type	13,753.11	1,023.18
23 61 16 00-0063	EA	30 Ton Refrigerant Compressor, Reciprocating Hermetic Type	15,246.84	1,151.08
23 61 16 00-0064	EA	35 Ton Refrigerant Compressor, Reciprocating Hermetic Type	19,734.41	1,315.52
23 61 16 00-0065	EA	40 Ton Refrigerant Compressor, Reciprocating Hermetic Type	25,411.49	1,315.52
23 61 16 00-0066	EA	50 Ton Refrigerant Compressor, Reciprocating Hermetic Type	31,392.78	1,534.77
23 61 16 00-0067	EA	60 Ton Refrigerant Compressor, Reciprocating Hermetic Type	35,349.34	1,644.40
23 61 16 00-0068	EA	70 Ton Refrigerant Compressor, Reciprocating Hermetic Type	37,350.63	1,723.31



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Central Cooling Equipment

23 60

Refrigerant Compressors

23 61

23

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 61 16 00-0069 EA 75 Ton Refrigerant Compressor, Reciprocating Hermetic Type	38,394.67	1,808.44
23 61 16 00-0070 EA 80 Ton Refrigerant Compressor, Reciprocating Hermetic Type	39,498.29	1,815.45
23 61 16 00-0071 EA 90 Ton Refrigerant Compressor, Reciprocating Hermetic Type	41,480.29	1,900.89
23 61 16 00-0072 EA 100 Ton Refrigerant Compressor, Reciprocating Hermetic Type	43,492.94	1,979.50
23 61 19 Scroll Refrigerant Compressors (23 61)		
23 61 19 00-0001 Scroll Refrigerant Compressors (23 61 19)		
23 61 19 00-0002 EA Up To 3 Ton Scroll Refrigerant Compressor	1,304.62	168.89
23 61 19 00-0003 EA 3.5 Ton Scroll Refrigerant Compressor	1,368.21	179.75
23 61 19 00-0004 EA 4 Ton Scroll Refrigerant Compressor	1,402.34	190.12
23 61 19 00-0005 EA 4.5 Ton Scroll Refrigerant Compressor	1,429.94	195.55
23 61 19 00-0006 EA 5 Ton Scroll Refrigerant Compressor	1,772.06	246.90
23 61 19 00-0007 EA 7.5 Ton Scroll Refrigerant Compressor	3,363.67	370.36
23 61 19 00-0008 EA 8.75 Ton Scroll Refrigerant Compressor	3,849.50	432.09
23 61 19 00-0009 EA 10 Ton Scroll Refrigerant Compressor	4,313.96	493.81
23 61 19 00-0010 EA 12 Ton Scroll Refrigerant Compressor	5,213.17	592.57
23 61 19 00-0011 EA 13.5 Ton Scroll Refrigerant Compressor	6,143.41	666.64
23 61 19 00-0012 EA 15 Ton Scroll Refrigerant Compressor	7,201.34	740.72
23 61 19 00-0013 EA 20 Ton Scroll Refrigerant Compressor	10,143.10	987.63
23 61 19 00-0014 EA 25 Ton Scroll Refrigerant Compressor	11,448.07	1,234.53
23 61 19 00-0015 EA 30 Ton Scroll Refrigerant Compressor	12,257.60	1,481.44
23 61 23 Rotary-Screw Refrigerant Compressors (23 61)		
23 61 23 00-0001 Rotary Screw Type Refrigerant Compressors (23 61 23)		
23 61 23 00-0002 EA 75 Ton Refrigerant Compressor, Rotary Screw Type	44,831.61	2,515.98
23 61 23 00-0003 EA 80 Ton Refrigerant Compressor, Rotary Screw Type	46,201.87	2,546.89
23 61 23 00-0004 EA 90 Ton Refrigerant Compressor, Rotary Screw Type	49,173.19	2,608.72
23 61 23 00-0005 EA 100 Ton Refrigerant Compressor, Rotary Screw Type	52,113.03	2,670.74
23 61 23 00-0006 EA 110 Ton Refrigerant Compressor, Rotary Screw Type	56,365.78	3,127.42
23 61 23 00-0007 EA 120 Ton Refrigerant Compressor, Rotary Screw Type	59,816.44	3,197.41
23 61 23 00-0008 EA 130 Ton Refrigerant Compressor, Rotary Screw Type	63,192.52	3,238.11
23 61 23 00-0009 EA 140 Ton Refrigerant Compressor, Rotary Screw Type	66,686.15	3,338.30
23 61 23 00-0010 EA 150 Ton Refrigerant Compressor, Rotary Screw Type	70,139.80	3,408.28
23 61 23 00-0011 EA 170 Ton Refrigerant Compressor, Rotary Screw Type	74,997.72	3,501.68
23 61 23 00-0012 EA 185 Ton Refrigerant Compressor, Rotary Screw Type	78,398.22	3,539.33
23 61 23 00-0013 EA 200 Ton Refrigerant Compressor, Rotary Screw Type	79,980.34	3,597.91
23 61 23 00-0014 EA 215 Ton Refrigerant Compressor, Rotary Screw Type	89,787.22	3,840.55
23 61 23 00-0015 EA 225 Ton Refrigerant Compressor, Rotary Screw Type	99,462.70	4,047.59
23 62 Packaged Compressor and Condenser Units (23 60)		
23 62 13 Packaged Air-Cooled Refrigerant Compressor and Condenser Units (23 62)		
23 62 13 00-0001 Combination Direct-Expansion Liquid Cooler And Compressors (23 62 13)		
Note: Shell and tube type. Chilled water temperature rise is 12 degree F. Rated by cooling capacity in tons. Includes power panel, factory wired and installed control panel, pressure and safety switches and gauges for oil pressure and high and low refrigerant pressure, flow switches, phase monitoring, sight glasses and filter dryers, start-up costs and equipment rigging. Units greater than 5 tons include dual compressors. Excludes motor starter, piping or power wiring.		
23 62 13 00-0002 EA 1 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	6,867.90	912.57
23 62 13 00-0003 EA 5 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	15,245.76	977.75
23 62 13 00-0004 EA 10 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	26,782.48	1,042.93
23 62 13 00-0005 EA 15 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	31,727.83	1,108.12
23 62 13 00-0006 EA 20 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	37,642.52	1,173.30
23 62 13 00-0007 EA 25 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	41,717.31	1,303.66
23 62 13 00-0008 EA 30 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	42,994.02	1,506.54
23 62 13 00-0009 EA 40 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	46,357.88	1,790.73
23 62 13 00-0010 EA 50 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	49,466.62	1,939.95
23 62 13 00-0011 EA 60 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	56,687.92	2,089.18
23 62 13 00-0012 EA 75 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	64,087.00	2,313.03
23 62 13 00-0013 EA 80 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	67,734.05	2,405.32
23 62 13 00-0014 EA 90 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	76,467.89	2,555.66
23 62 13 00-0015 EA 100 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube	83,577.41	2,706.00
23 62 13 00-0016 Direct-Expansion Liquid Cooler Shell And Tube Type (23 62 13)		
Note: For built-up systems. Chilled water temperature rise is 12 degree F. Rated by cooling capacity in tons. Excludes compressors. Includes power panel, factory wired and installed control panel, pressure and safety switches and gauges for oil pressure and high and low refrigerant pressure, flow switches, phase monitoring, sight glasses and filter dryers, start-up costs and equipment rigging. Units greater than 5 tons include dual compressors. Excludes motor starter, piping or power wiring.		
23 62 13 00-0017 EA 1 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	6,554.87	912.57
23 62 13 00-0018 EA 5 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	13,464.07	977.75
23 62 13 00-0019 EA 10 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	21,018.45	1,042.93
23 62 13 00-0020 EA 15 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	22,701.07	1,108.12
23 62 13 00-0021 EA 20 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	24,383.69	1,173.30
23 62 13 00-0022 EA 25 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	28,900.82	1,303.66

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 62 Packaged Compressor and Condenser Units**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 62 13 00-0023 EA 30 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	32,807.89	1,506.54
23 62 13 00-0024 EA 40 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	42,165.67	1,790.73
23 62 13 00-0025 EA 50 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	47,287.33	1,939.95
23 62 13 00-0026 EA 60 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	51,174.98	2,089.18
23 62 13 00-0027 EA 75 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	58,851.27	2,313.03
23 62 13 00-0028 EA 80 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	62,332.25	2,405.32
23 62 13 00-0029 EA 90 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	68,371.94	2,555.66
23 62 13 00-0030 EA 100 Ton Chiller, Direct-Expansion Liquid Cooler Shell And Tube For Built-Up Systems	77,958.87	2,706.00

23 62 13 00-0031**Packaged Chiller With Remote Air Cooled Condenser (23 62 13)**

Note: With remote air cooled condenser rated by cooling capacity. Units are factory assembled package type. Includes hermetic compressor, motor, cooler, condenser, internal piping, oil, discharge/suction gauges, lead lag switch, compressor unloaders, removable core filter drier with 3 valve by-pass, sight glass, internal wiring, motor starters, insulation, fan cycling controls, standard oil hi/low safety control switches, operation and safety controls, factory wired and installed control panel, vibration eliminators, phase monitoring for 3 phase units, start-up and equipment rigging. Units include dual compressors. Excludes piping and power wiring.

23 62 13 00-0032 EA 15 Ton Packaged Chiller With Remote Air Cooled Condensers	36,217.11	8,700.65
For Gas Fired Engine Driven, Add	5,938.99	
23 62 13 00-0033 EA 20 Ton Packaged Chiller With Remote Air Cooled Condensers	40,816.41	9,170.93
For Gas Fired Engine Driven, Add	6,748.34	
23 62 13 00-0034 EA 25 Ton Packaged Chiller With Remote Air Cooled Condensers	46,867.15	9,980.05
For Gas Fired Engine Driven, Add	7,877.17	
23 62 13 00-0035 EA 30 Ton Packaged Chiller With Remote Air Cooled Condensers	52,168.19	10,603.85
For Gas Fired Engine Driven, Add	8,843.86	
23 62 13 00-0036 EA 40 Ton Packaged Chiller With Remote Air Cooled Condensers	64,559.57	11,700.80
For Gas Fired Engine Driven, Add	11,157.67	
23 62 13 00-0037 EA 50 Ton Packaged Chiller With Remote Air Cooled Condensers	70,895.32	12,118.63
For Gas Fired Engine Driven, Add	12,362.17	
23 62 13 00-0038 EA 60 Ton Packaged Chiller With Remote Air Cooled Condensers	76,994.63	13,050.85
For Gas Fired Engine Driven, Add	13,442.27	
23 62 13 00-0039 EA 70 Ton Packaged Chiller With Remote Air Cooled Condensers	92,898.25	13,963.97
For Gas Fired Engine Driven, Add	16,459.94	
23 62 13 00-0040 EA 75 Ton Packaged Chiller With Remote Air Cooled Condensers	93,978.81	14,243.14
For Gas Fired Engine Driven, Add	16,660.35	
23 62 13 00-0041 EA 80 Ton Packaged Chiller With Remote Air Cooled Condensers	95,830.81	14,862.46
For Gas Fired Engine Driven, Add	16,937.91	
23 62 13 00-0042 EA 90 Ton Packaged Chiller With Remote Air Cooled Condensers	105,948.56	15,538.04
For Gas Fired Engine Driven, Add	18,860.17	
23 62 13 00-0043 EA 100 Ton Packaged Chiller With Remote Air Cooled Condensers	116,853.11	16,277.98
For Gas Fired Engine Driven, Add	20,930.15	
23 62 13 00-0044 EA 110 Ton Packaged Chiller With Remote Air Cooled Condensers	129,174.61	17,091.83
For Gas Fired Engine Driven, Add	23,272.43	
23 62 13 00-0045 EA 120 Ton Packaged Chiller With Remote Air Cooled Condensers	139,478.94	17,991.43
For Gas Fired Engine Driven, Add	25,198.43	
23 62 13 00-0046 EA 140 Ton Packaged Chiller With Remote Air Cooled Condensers	153,571.36	18,990.92
For Gas Fired Engine Driven, Add	27,867.06	

23 62 23 Packaged Water-Cooled Refrigerant Compressor and Condenser Units (23 62)**23 62 23 00-0001 Water Cooled Condensing Units (23 62 23)**

Note: Includes compressor, condenser and motor, and equipment rigging. Excludes piping and power wiring.

23 62 23 00-0002 EA 5 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor	8,073.05	713.51
23 62 23 00-0003 EA 10 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor	12,252.01	1,042.03
23 62 23 00-0004 EA 15 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor	14,039.72	1,129.30
23 62 23 00-0005 EA 20 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor	17,418.11	1,355.15
23 62 23 00-0006 EA 30 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor	18,791.36	1,594.36
23 62 23 00-0007 EA 60 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor	40,074.33	2,408.20
23 62 23 00-0008 EA 80 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor	49,748.81	2,906.49
23 62 23 00-0009 EA 120 Ton Water Cooled Condensing Unit With Compressor, Condenser And Motor	68,937.00	3,180.15

23 63 Refrigerant Condensers (23 60)**23 63 13 Air-Cooled Refrigerant Condensers (23 63)****23 63 13 00-0001 Air Cooled Condensing Units (23 63 13)**

Note: Includes compressor(s), condenser, fan, motors, discharge/suction gauges, sight glass, fan cycling controls, standard oil hi/low safety control switches, standard controls and liquid line filter dryers and phase monitoring for 3 phase units and equipment rigging. Meets minimum ASHRAE EER requirements. Excludes piping and power wiring.

23 63 13 00-0002 EA 6 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor	6,818.26	713.51
For >10 To 25, Deduct	-172.13	
For >25 To 50, Deduct	-286.88	
For >50, Deduct	-459.01	
For Low Ambient Protection, 0 Degree F, Add	1,016.05	
For Winter Start Control, Add	337.57	
23 63 13 00-0003 EA 7.5 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor	8,168.39	846.97
For >10 To 25, Deduct	-206.55	
For >25 To 50, Deduct	-344.26	
For >50, Deduct	-550.81	
For Low Ambient Protection, 0 Degree F, Add	871.63	
For Winter Start Control, Add	266.03	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Cooling Equipment			23 60
Refrigerant Condensers			23 63

MINOR		DESCRIPTION	TOTAL DIRECT	DEMOLITION
CSI	UOM		UNIT COST	UNIT COST
23 63 13 00-0004	EA	10 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	10,636.35	1,042.03
		For >10 To 25, Deduct	-271.71	
		For >25 To 50, Deduct	-452.65	
		For >50, Deduct	-724.55	
		For Low Ambient Protection, 0 Degree F, Add	1,028.84	
		For Winter Start Control, Add	339.08	
23 63 13 00-0005	EA	12.5 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	13,217.91	1,084.13
		For >10 To 25, Deduct	-347.26	
		For >25 To 50, Deduct	-578.77	
		For >50, Deduct	-926.02	
		For Low Ambient Protection, 0 Degree F, Add	1,220.92	
		For Winter Start Control, Add	395.77	
23 63 13 00-0006	EA	15 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	15,804.73	1,129.30
		For >10 To 25, Deduct	-422.81	
		For >25 To 50, Deduct	-704.68	
		For >50, Deduct	-1,127.49	
		For Low Ambient Protection, 0 Degree F, Add	1,273.38	
		For Winter Start Control, Add	312.04	
23 63 13 00-0007	EA	20 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	20,398.16	1,355.15
		For >10 To 25, Deduct	-550.35	
		For >25 To 50, Deduct	-917.24	
		For >50, Deduct	-1,467.59	
		For Low Ambient Protection, 0 Degree F, Add	1,614.01	
		For Winter Start Control, Add	388.78	
23 63 13 00-0008	EA	25 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	23,231.86	1,457.82
		For >10 To 25, Deduct	-630.75	
		For >25 To 50, Deduct	-1,051.25	
		For >50, Deduct	-1,682.00	
		For Low Ambient Protection, 0 Degree F, Add	1,708.09	
		For Winter Start Control, Add	430.94	
23 63 13 00-0009	EA	30 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	26,667.29	1,591.28
		For >10 To 25, Deduct	-727.79	
		For >25 To 50, Deduct	-1,212.98	
		For >50, Deduct	-1,940.77	
		For Low Ambient Protection, 0 Degree F, Add	1,814.90	
		For Winter Start Control, Add	483.36	
23 63 13 00-0010	EA	40 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	36,802.23	1,915.62
		For >10 To 25, Deduct	-1,015.44	
		For >25 To 50, Deduct	-1,692.40	
		For >50, Deduct	-2,707.84	
		For Low Ambient Protection, 0 Degree F, Add	2,430.97	
		For Winter Start Control, Add	633.91	
23 63 13 00-0011	EA	50 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	44,666.50	2,408.20
		For >10 To 25, Deduct	-1,228.58	
		For >25 To 50, Deduct	-2,047.63	
		For >50, Deduct	-3,276.20	
		For Low Ambient Protection, 0 Degree F, Add	2,566.59	
		For Winter Start Control, Add	576.16	
23 63 13 00-0012	EA	60 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	51,511.97	2,657.92
		For >10 To 25, Deduct	-1,425.63	
		For >25 To 50, Deduct	-2,376.06	
		For >50, Deduct	-3,801.69	
		For Low Ambient Protection, 0 Degree F, Add	2,898.56	
		For Winter Start Control, Add	636.69	
23 63 13 00-0013	EA	80 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	66,864.23	2,906.49
		For >10 To 25, Deduct	-1,871.46	
		For >25 To 50, Deduct	-3,119.09	
		For >50, Deduct	-4,990.55	
		For Low Ambient Protection, 0 Degree F, Add	3,615.86	
		For Winter Start Control, Add	760.14	
23 63 13 00-0014	EA	100 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	92,430.97	2,616.98
		For >10 To 25, Deduct	-2,613.11	
		For >25 To 50, Deduct	-4,355.18	
		For >50, Deduct	-6,968.29	
		For Low Ambient Protection, 0 Degree F, Add	3,944.95	
		For Winter Start Control, Add	968.26	
23 63 13 00-0015	EA	120 Ton Air Cooled Condensing Unit With Compressor, Condenser, Fan And Motor.....	114,098.65	2,705.70
		For >10 To 25, Deduct	-3,257.72	
		For >25 To 50, Deduct	-5,429.53	
		For >50, Deduct	-8,687.25	
		For Low Ambient Protection, 0 Degree F, Add	4,634.71	
23 63 13 00-0016		Air Cooled Condensing Units (23 63 13) Note: Includes compressor(s), condenser, fan, motors, discharge/suction gauges, sight glass, fan cycling controls, standard oil hi/low safety control switches, standard controls and liquid line filter dryers, 14 SEER, 1 or 3 phase and equipment rigging. Higher SEER ratings can be obtained by oversizing evaporators. Includes 20' length of piping (liquid line and insulated suction line). Excludes additional piping and power wiring.		
23 63 13 00-0017	EA	1.5 Ton, 14 SEER, Air Cooled Condensing Unit.....	2,165.34	354.82
		Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.		
		For >10 To 25, Deduct	-48.99	
		For >25 To 50, Deduct	-81.66	
		For >50, Deduct	-130.65	
		For 15 SEER, Add	391.95	
		For 16 SEER, Add	669.58	
		For 18 SEER, Add	1,404.48	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 63 Refrigerant Condensers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 63 13 00-0018 EA 2 Ton, 14 SEER, Air Cooled Condensing Unit.....	2,328.53	394.43
Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.		
For >10 To 25, Deduct	-52.12	
For >25 To 50, Deduct	-86.86	
For >50, Deduct	-138.97	
For 15 SEER, Add	416.92	
For 16 SEER, Add	712.24	
For 18 SEER, Add	1,493.97	
23 63 13 00-0019 EA 2.5 Ton, 14 SEER, Air Cooled Condensing Unit.....	2,470.56	433.88
Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.		
For >10 To 25, Deduct	-54.60	
For >25 To 50, Deduct	-91.00	
For >50, Deduct	-145.61	
For 15 SEER, Add	436.82	
For 16 SEER, Add	746.23	
For 18 SEER, Add	1,565.26	
23 63 13 00-0020 EA 3 Ton, 14 SEER, Air Cooled Condensing Unit.....	2,838.32	473.08
Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.		
For >10 To 25, Deduct	-63.86	
For >25 To 50, Deduct	-106.44	
For >50, Deduct	-170.30	
For 15 SEER, Add	510.89	
For 16 SEER, Add	872.77	
For 18 SEER, Add	1,830.68	
23 63 13 00-0021 EA 3.5 Ton, 14 SEER, Air Cooled Condensing Unit.....	3,005.04	512.76
Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.		
For >10 To 25, Deduct	-67.09	
For >25 To 50, Deduct	-111.81	
For >50, Deduct	-178.90	
For 15 SEER, Add	536.71	
For 16 SEER, Add	916.87	
For 18 SEER, Add	1,923.20	
23 63 13 00-0022 EA 4 Ton, 14 SEER, Air Cooled Condensing Unit.....	3,349.89	552.21
Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.		
For >10 To 25, Deduct	-75.66	
For >25 To 50, Deduct	-126.10	
For >50, Deduct	-201.76	
For 15 SEER, Add	605.28	
For 16 SEER, Add	1,034.02	
For 18 SEER, Add	2,168.91	
23 63 13 00-0023 EA 5 Ton, 14 SEER, Air Cooled Condensing Unit.....	3,781.95	591.35
Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.		
For >10 To 25, Deduct	-86.85	
For >25 To 50, Deduct	-144.75	
For >50, Deduct	-231.59	
For 15 SEER, Add	694.78	
For 16 SEER, Add	1,186.92	
For 18 SEER, Add	2,489.63	
23 63 13 00-0024 Removal And Reinstallation Of AC Condensing Unit (23 63 13)		
Note: Includes storage and cleaning.		
23 63 13 00-0025 EA Removal And Reinstallation Of Up To 5 Tons Air Cooled Condensing Unit.....	363.81	
23 63 13 00-0026 EA Removal And Reinstallation Of 7.5 To 15 Tons Air Cooled Condensing Unit.....	1,364.31	
23 63 13 00-0027 EA Removal And Reinstallation Of 20 To 40 Tons Air Cooled Condensing Unit.....	2,156.79	

23 64 Packaged Water Chillers (23 60)

See CSI section 26 29 23 00-0000 for variable frequency motor controllers.

23 64 13 Absorption Water Chillers (23 64)**23 64 13 16 Indirect-Fired Absorption Water Chillers (23 64 13)****23 64 13 16-0001 Packaged, Steam Driven, Water Cooled Absorption Chillers (23 64 13 16)**

Note: Includes refrigerant monitor with scanner, audible alarm, and lights, 460 voltage motor rating, and all accessories, controls (water temperature controller with PE switches, flow switch, etc.) factory wired and installed control panel, and also includes start-up. Price includes closed transition starter. (rated by cooling capacity in tons). Units are factory assembled package type consisting of motor, cooler, condenser, internal piping and wiring, motor starters, insulation, purge unit, controls, gauges, lubrication system, refrigerant charge, oil, phase monitoring for 3 phase units, start-up costs and equipment rigging. Exclude piping and power wiring.

23 64 13 16-0002 EA 50 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller.....	196,647.66	11,870.37
For Two Stage Unit, Add	128,157.07	
23 64 13 16-0003 EA 100 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller.....	248,124.18	13,666.63
For Two Stage Unit, Add	162,753.62	
23 64 13 16-0004 EA 150 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller.....	314,189.05	14,691.63
For Two Stage Unit, Add	208,179.04	
23 64 13 16-0005 EA 200 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller.....	348,900.26	15,716.62
For Two Stage Unit, Add	231,656.89	
23 64 13 16-0006 EA 250 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller.....	389,440.32	16,172.18
For Two Stage Unit, Add	259,670.48	
23 64 13 16-0007 EA 300 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller.....	438,482.33	16,741.62
For Two Stage Unit, Add	293,544.33	
23 64 13 16-0008 EA 350 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller.....	470,105.02	17,311.06
For Two Stage Unit, Add	315,224.66	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Cooling Equipment			23 60
Packaged Water Chillers			23 64

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 64 13 16-0009	EA		400 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller..... <i>For Two Stage Unit, Add</i>	559,023.80 376,738.92	18,222.18
23 64 13 16-0010	EA		500 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller..... <i>For Two Stage Unit, Add</i>	625,485.13 422,806.30	18,791.62
23 64 13 16-0011	EA		650 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller..... <i>For Two Stage Unit, Add</i>	757,268.88 514,599.36	19,361.05
23 64 13 16-0012	EA		750 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller..... <i>For Two Stage Unit, Add</i>	820,969.79 558,096.68	20,727.72
23 64 13 16-0013	EA		850 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller..... <i>For Two Stage Unit, Add</i>	880,088.12 598,477.29	21,980.50
23 64 13 16-0014	EA		950 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller..... <i>For Two Stage Unit, Add</i>	944,403.80 642,159.03	23,654.54
23 64 13 16-0015	EA		1,125 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller..... <i>For Two Stage Unit, Add</i>	1,080,672.79 737,039.61	24,231.47
23 64 13 16-0016	EA		1,250 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller..... <i>For Two Stage Unit, Add</i>	1,183,487.74 807,948.52	25,616.14
23 64 13 16-0017	EA		1,450 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller..... <i>For Two Stage Unit, Add</i>	1,381,762.83 945,817.96	26,770.01
23 64 13 16-0018	EA		1,700 Ton Packaged, Steam Driven, Water Cooled Absorption Chiller..... <i>For Two Stage Unit, Add</i>	1,614,619.63 1,108,171.57	27,577.73
23 64 16 Centrifugal Water Chillers (23 64)					
23 64 16 13 Air-Cooled Centrifugal Water Chillers (23 64 16)					
23 64 16 13-0001 Magnetic Bearing, Air Cooled Centrifugal Chillers (23 64 16 13)					
Note: SMART air cooled oil-free centrifugal chiller with variable speed control, magnetic bearings, lowest ARI IPLV in industry. Includes start up, freight, R-134a refrigerant charge, BACnet or equivalent interface.					
23 64 16 13-0002	EA		85 Ton, Single Compressor, Magnetic Bearing, Air Cooled Centrifugal Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i>	238,961.23 6,649.50	6,307.12
23 64 16 13-0003	EA		175 Ton, Two Compressor, Magnetic Bearing, Air Cooled Centrifugal Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i>	339,189.36 13,299.00	8,461.35
23 64 16 13-0004	EA		240 Ton, Three Compressor, Magnetic Bearing, Air Cooled Centrifugal Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i>	424,242.25 19,948.50	8,948.57
23 64 16 16 Water-Cooled Centrifugal Water Chillers (23 64 16)					
23 64 16 16-0001 Packaged Water-Cooled Centrifugal Water Chillers (23 64 16 16)					
Note: Includes integral heat exchanger, refrigerant monitor with scanner, audible alarm, and lights, 460 voltage motor rating, controls (water temperature controller with PE switches, flow switch, etc.), start-up, and closed transition starter. Rated by cooling capacity in tons. Units are factory assembled package type consisting of compressor, motor, cooler, condenser, internal piping and wiring, motor starters, insulation, purge unit, factory wired and installed control panel, gauges, lubrication system, refrigerant charge, oil, phase monitoring for 3 phase units, start-up costs and equipment rigging. Units greater than 20 tons include dual compressors. Excludes piping and power wiring.					
23 64 16 16-0002	EA		180 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	149,503.99 5,562.65	6,497.91
23 64 16 16-0003	EA		200 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	163,404.13 6,107.94	6,662.48
23 64 16 16-0004	EA		225 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	180,202.16 6,769.12	6,831.84
23 64 16 16-0005	EA		250 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	196,603.16 7,407.56	7,105.74
23 64 16 16-0006	EA		275 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	212,640.48 8,023.27	7,506.97
23 64 16 16-0007	EA		300 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	228,091.77 8,616.25	7,897.26
23 64 16 16-0008	EA		325 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	243,041.81 9,186.43	8,330.27
23 64 16 16-0009	EA		350 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	257,389.56 9,733.94	8,741.07
23 64 16 16-0010	EA		375 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	271,109.22 10,258.66	9,115.65
23 64 16 16-0011	EA		400 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	284,133.96 10,760.64	9,411.41
23 64 16 16-0012	EA		425 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	296,864.13 11,239.89	9,877.67
23 64 16 16-0013	EA		450 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	308,889.35 11,696.41	10,258.74
23 64 16 16-0014	EA		475 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	320,338.30 12,130.20	10,634.91

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 64 Packaged Water Chillers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 64 16 16-0015 EA 500 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	331,082.74 12,541.26	10,926.24
23 64 16 16-0016 EA 550 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	350,551.38 13,295.11	11,313.69
23 64 16 16-0017 EA 600 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	367,519.53 13,958.03	11,559.69
23 64 16 16-0018 EA 650 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	382,735.58 14,529.96	12,131.07
23 64 16 16-0019 EA 700 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	395,692.23 15,010.96	12,711.10
23 64 16 16-0020 EA 750 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	406,472.61 15,401.17	13,349.22
23 64 16 16-0021 EA 800 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	431,737.09 16,370.36	13,993.26
23 64 16 16-0022 EA 850 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	456,823.27 17,332.57	14,635.26
23 64 16 16-0023 EA 900 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	481,830.36 18,287.64	15,338.86
23 64 16 16-0024 EA 950 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	506,771.73 19,235.52	16,113.52
23 64 16 16-0025 EA 1,000 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	531,585.28 20,176.20	17,103.03
23 64 16 16-0026 EA 1,100 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	576,837.20 21,819.01	19,734.34
23 64 16 16-0027 EA 1,200 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	620,399.75 23,393.77	22,373.15
23 64 16 16-0028 EA 1,300 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	661,460.70 24,900.32	24,510.72
23 64 16 16-0029 EA 1,400 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	699,511.14 26,338.68	25,826.83
23 64 16 16-0030 EA 1,500 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	735,783.55 27,708.65	27,099.90
23 64 16 16-0031 EA 1,600 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	769,592.89 29,011.09	27,885.47
23 64 16 16-0032 EA 1,700 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	803,535.78 30,245.13	29,830.91
23 64 16 16-0033 EA 1,800 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	834,994.55 31,410.98	31,286.06
23 64 16 16-0034 EA 1,900 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	865,436.20 32,508.63	33,174.05
23 64 16 16-0035 EA 2,000 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	893,058.86 33,538.22	34,358.85
23 64 16 16-0036 EA 2,250 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	950,946.85 35,814.03	36,303.72
23 64 16 16-0037 EA 2,500 Ton Packaged Water-Cooled Centrifugal Water Chiller..... Note: Includes integral heat exchanger, controls, and 440/460 V motor. <i>For 208/230 Voltage Motor Rating, Add</i>	1,002,753.66 37,663.92	38,481.89
23 64 16 16-0038 Magnetic Bearing, Water Cooled Centrifugal Water Chillers (23 64 16 16) Note: SMARTD water cooled oil-free centrifugal chiller with variable speed control, magnetic bearings, 10 amp maximum inrush current and ARI part load <0.4kW per ton. Includes start up, freight, R-134a refrigerant charge, BACnet or equivalent interface, 12/18 month compressor warranty.		
23 64 16 16-0039 EA 60 To 85 Ton, Single Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	150,410.62 6,649.50 4,447.80	5,466.65
23 64 16 16-0040 EA 130 To 137 Ton, Single Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	189,412.70 6,649.50 4,447.80	6,353.84
23 64 16 16-0041 EA 125 To 170 Ton, Dual Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller..... <i>For 5 Year Parts Only Compressor Warranty, Add</i> <i>For Marine Water Box Connections, Add</i>	237,278.89 13,299.00 4,447.80	6,497.91



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Cooling Equipment			23 60
Packaged Water Chillers			23 64

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 64 16 16-0042	EA		240 To 270 Ton, Dual Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller For 5 Year Parts Only Compressor Warranty, Add For Marine Water Box Connections, Add	309,049.84 13,299.00 4,447.80	7,506.97
23 64 16 16-0043	EA		210 To 260 Ton, Three Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller For 5 Year Parts Only Compressor Warranty, Add For Marine Water Box Connections, Add	311,457.40 19,948.50 4,447.80	7,105.74
23 64 16 16-0044	EA		355 To 405 Ton, Three Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller For 5 Year Parts Only Compressor Warranty, Add For Marine Water Box Connections, Add	467,328.29 19,948.50 4,447.80	9,411.41
23 64 16 16-0045	EA		299 To 340 Ton, Four Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller For 5 Year Parts Only Compressor Warranty, Add For Marine Water Box Connections, Add	414,012.91 24,381.50 6,195.15	8,741.07
23 64 16 16-0046	EA		540 Ton, Four Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller For 5 Year Parts Only Compressor Warranty, Add For Marine Water Box Connections, Add	575,284.34 24,381.50 6,195.15	11,313.69
23 64 16 16-0047	EA		425 Ton, Five Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller For 5 Year Parts Only Compressor Warranty, Add For Marine Water Box Connections, Add	515,339.59 28,814.50 6,195.15	9,877.67
23 64 16 16-0048	EA		650 Ton, Five Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller For 5 Year Parts Only Compressor Warranty, Add For Marine Water Box Connections, Add	689,791.70 28,814.50 6,195.15	12,131.07
23 64 16 16-0049	EA		510 Ton, Six Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller For 5 Year Parts Only Compressor Warranty, Add For Marine Water Box Connections, Add	613,665.70 33,247.50 6,512.85	10,926.24
23 64 16 16-0050	EA		800 Ton, Six Compressor, Magnetic Bearing, Water Cooled Centrifugal Water Chiller For 5 Year Parts Only Compressor Warranty, Add For Marine Water Box Connections, Add	790,672.58 33,247.50 6,512.85	13,993.26

23 64 23 Scroll Water Chillers (23 64)

23 64 23 13 Air-Cooled Scroll Water Chillers (23 64 23)

23 64 23 13-0001 Packaged Air Cooled Scroll Water Chillers (23 64 23 13)

Note: With integral heat exchanger. Rated by cooling capacity, tons. Units are factory assembled package type. Includes scroll compressor, motor, cooler, condenser, internal piping, oil, discharge/suction gauges, lead lag switch, compressor unloaders, removable core filter drier with 3-valve by-pass, sight glass, internal wiring, motor starters, insulation, fan cycling controls, standard oil hi/low safety control switches, operation and safety controls, factory wired and installed control panel, refrigerant charge, vibration eliminators, phase monitoring for 3 phase units, factory charge of refrigerant, start-up and equipment rigging. Units greater than 20 tons include dual compressors. Excludes piping and power wiring. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.

23 64 23 13-0002	EA	10 Ton Packaged Air Cooled Scroll Water Chiller	25,304.30	1,624.88
23 64 23 13-0003	EA	15 Ton Packaged Air Cooled Scroll Water Chiller	37,055.48	1,645.71
23 64 23 13-0004	EA	18 Ton Packaged Air Cooled Scroll Water Chiller	40,439.88	1,760.28
23 64 23 13-0005	EA	22 Ton Packaged Air Cooled Scroll Water Chiller	44,488.33	1,885.27
23 64 23 13-0006	EA	25 Ton Packaged Air Cooled Scroll Water Chiller	45,217.31	2,010.27
23 64 23 13-0007	EA	30 Ton Packaged Air Cooled Scroll Water Chiller	47,714.18	2,156.08
23 64 23 13-0008	EA	40 Ton Packaged Air Cooled Scroll Water Chiller	54,552.64	2,333.16
23 64 23 13-0009	EA	45 Ton Packaged Air Cooled Scroll Water Chiller	58,586.78	2,531.06
23 64 23 13-0010	EA	50 Ton Packaged Air Cooled Scroll Water Chiller	61,863.75	2,603.97
23 64 23 13-0011	EA	55 Ton Packaged Air Cooled Scroll Water Chiller	64,612.68	2,718.55
23 64 23 13-0012	EA	60 Ton Packaged Air Cooled Scroll Water Chiller	66,782.95	2,812.29
23 64 23 13-0013	EA	70 Ton Packaged Air Cooled Scroll Water Chiller	77,044.40	3,166.43
23 64 23 13-0014	EA	80 Ton Packaged Air Cooled Scroll Water Chiller	82,933.83	3,468.49
23 64 23 13-0015	EA	90 Ton Packaged Air Cooled Scroll Water Chiller	84,442.71	3,478.90
23 64 23 13-0016	EA	100 Ton Packaged Air Cooled Scroll Water Chiller	89,339.70	3,489.33
23 64 23 13-0017	EA	110 Ton Packaged Air Cooled Scroll Water Chiller	94,106.98	3,499.74
23 64 23 13-0018	EA	120 Ton Packaged Air Cooled Scroll Water Chiller	98,933.53	3,510.15
23 64 23 13-0019	EA	130 Ton Packaged Air Cooled Scroll Water Chiller	104,008.19	3,520.57

23 64 23 16 Water-Cooled Scroll Water Chillers (23 64 23)

23 64 23 16-0001 Packaged Water Cooled Scroll Water Chillers (23 64 23 16)

Note: Integral heat exchanger. Rated by cooling capacity in tons. Units are factory assembled package type. Includes hermetic compressor, motor, cooler, condenser, internal piping, oil, discharge/suction gauges, lead lag switch, compressor unloaders, removable core filter drier with 3 valve by-pass, sight glass, internal wiring, motor starters, insulation, fan cycling controls, standard oil hi/low safety control switches, operation and safety controls, factory wired and installed control panel, refrigerant charge, vibration eliminators, phase monitoring for 3 phase units, start-up costs and equipment rigging. Units greater than 20 tons include dual compressors. Excludes piping and power wiring.

23 64 23 16-0002	EA	20 Ton Packaged Water Cooled Scroll Water Chiller	26,484.50	2,081.35
23 64 23 16-0003	EA	25 Ton Packaged Water Cooled Scroll Water Chiller	30,391.64	2,144.23
23 64 23 16-0004	EA	30 Ton Packaged Water Cooled Scroll Water Chiller	33,707.73	2,353.92
23 64 23 16-0005	EA	40 Ton Packaged Water Cooled Scroll Water Chiller	41,535.23	3,029.66
23 64 23 16-0006	EA	50 Ton Packaged Water Cooled Scroll Water Chiller	45,937.80	3,320.20
23 64 23 16-0007	EA	60 Ton Packaged Water Cooled Scroll Water Chiller	48,333.78	3,668.39

23 64 26 Rotary-Screw Water Chillers (23 64)

23 64 26 13 Air-Cooled, Rotary-Screw Water Chillers (23 64 26)

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 64 Packaged Water Chillers**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 64 26 13-0001**Packaged Air Cooled Rotary-Screw Water Chillers (23 64 26 13)**

Note: Includes hermetic direct-drive compressors start-up, coil guards, copper fins, copper tubes, factory wired and installed control panel, refrigerant monitor with scanner, audible alarm, and lights, phase monitoring for 3 phase units, 440/460 voltage motor rating, motor starters, factory charge of refrigerant and equipment rigging. Units greater than 20 tons include dual compressors. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.

23 64 26 13-0002	EA	70 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	100,430.22	3,989.28
		For Aluminum Fins Instead Of Copper, Deduct	-1,416.77	
		For 208/230 Voltage Motor Rating, Add	3,778.06	
23 64 26 13-0003	EA	80 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	107,934.37	4,333.01
		For Aluminum Fins Instead Of Copper, Deduct	-1,521.68	
		For 208/230 Voltage Motor Rating, Add	4,057.81	
23 64 26 13-0004	EA	90 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	113,540.00	4,520.50
		For Aluminum Fins Instead Of Copper, Deduct	-1,601.39	
		For 208/230 Voltage Motor Rating, Add	4,270.37	
23 64 26 13-0005	EA	100 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	117,726.72	4,864.22
		For Aluminum Fins Instead Of Copper, Deduct	-1,656.53	
		For 208/230 Voltage Motor Rating, Add	4,417.42	
23 64 26 13-0006	EA	110 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	126,353.36	5,103.79
		For Aluminum Fins Instead Of Copper, Deduct	-1,780.62	
		For 208/230 Voltage Motor Rating, Add	4,748.32	
23 64 26 13-0007	EA	120 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	134,283.93	5,207.94
		For Aluminum Fins Instead Of Copper, Deduct	-1,897.08	
		For 208/230 Voltage Motor Rating, Add	5,058.88	
23 64 26 13-0008	EA	130 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	141,757.51	5,385.01
		For Aluminum Fins Instead Of Copper, Deduct	-2,005.28	
		For 208/230 Voltage Motor Rating, Add	5,347.41	
23 64 26 13-0009	EA	140 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	146,293.88	5,499.59
		For Aluminum Fins Instead Of Copper, Deduct	-2,070.67	
		For 208/230 Voltage Motor Rating, Add	5,521.78	
23 64 26 13-0010	EA	160 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	154,488.43	5,614.17
		For Aluminum Fins Instead Of Copper, Deduct	-2,190.93	
		For 208/230 Voltage Motor Rating, Add	5,842.48	
23 64 26 13-0011	EA	170 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	161,262.35	5,791.24
		For Aluminum Fins Instead Of Copper, Deduct	-2,288.63	
		For 208/230 Voltage Motor Rating, Add	6,103.02	
23 64 26 13-0012	EA	180 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	170,055.86	6,020.38
		For Aluminum Fins Instead Of Copper, Deduct	-2,415.38	
		For 208/230 Voltage Motor Rating, Add	6,441.01	
23 64 26 13-0013	EA	200 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	177,767.25	6,145.37
		For Aluminum Fins Instead Of Copper, Deduct	-2,528.39	
		For 208/230 Voltage Motor Rating, Add	6,742.38	
23 64 26 13-0014	EA	215 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	190,575.87	6,249.53
		For Aluminum Fins Instead Of Copper, Deduct	-2,718.02	
		For 208/230 Voltage Motor Rating, Add	7,248.06	
23 64 26 13-0015	EA	225 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	199,087.18	6,312.03
		For Aluminum Fins Instead Of Copper, Deduct	-2,844.44	
		For 208/230 Voltage Motor Rating, Add	7,585.18	
23 64 26 13-0016	EA	240 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	207,598.48	6,364.11
		For Aluminum Fins Instead Of Copper, Deduct	-2,970.86	
		For 208/230 Voltage Motor Rating, Add	7,922.30	
23 64 26 13-0017	EA	260 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	233,069.91	6,489.10
		For Aluminum Fins Instead Of Copper, Deduct	-3,350.12	
		For 208/230 Voltage Motor Rating, Add	8,933.66	
23 64 26 13-0018	EA	280 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	245,888.95	6,614.09
		For Aluminum Fins Instead Of Copper, Deduct	-3,539.75	
		For 208/230 Voltage Motor Rating, Add	9,439.34	
23 64 26 13-0019	EA	300 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	262,911.56	6,718.24
		For Aluminum Fins Instead Of Copper, Deduct	-3,792.59	
		For 208/230 Voltage Motor Rating, Add	10,113.58	
23 64 26 13-0020	EA	325 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	288,362.16	6,832.82
		For Aluminum Fins Instead Of Copper, Deduct	-4,171.85	
		For 208/230 Voltage Motor Rating, Add	11,124.93	
23 64 26 13-0021	EA	350 Ton Packaged Air Cooled Rotary-Screw Water Chiller.....	314,394.44	6,916.15
		For Aluminum Fins Instead Of Copper, Deduct	-4,560.30	
		For 208/230 Voltage Motor Rating, Add	12,160.81	

23 64 26 16**Water-Cooled, Rotary-Screw Water Chillers (23 64 26)****23 64 26 16-0001****Packaged Water Cooled Helical Rotary Water Chillers (23 64 26 16)**

Note: Integral heat exchanger. Rated by cooling capacity in tons. Factory assembled package type includes semi-hermetic compressor, motor, cooler, condenser, internal piping, oil, discharge/suction gages, lead-lag switch, compressor unloaders, removable core filter dryer, 3-valve by-pass, sight glass, internal wiring, motor starters, insulation, standard oil hi/low safety control switches, operation and safety controls, factory wired and installed control panel, full factory refrigerant charge, vibration eliminators, NEMA 1 flow switches, wye-delta starter, extended warranty on compressor(s), start-up costs and equipment rigging. Excludes piping and power wiring.

23 64 26 16-0002	EA	70 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	66,470.84	5,124.99
23 64 26 16-0003	EA	80 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	72,120.50	5,324.29
23 64 26 16-0004	EA	90 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	77,029.83	5,466.65
23 64 26 16-0005	EA	100 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	81,311.26	5,697.28
23 64 26 16-0006	EA	110 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	85,557.90	5,853.88
23 64 26 16-0007	EA	125 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	90,729.11	6,018.21
23 64 26 16-0008	EA	130 Ton Packaged Water Cooled Helical Rotary Water Chiller.....	122,286.95	6,186.43



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 64 26 16-0009 EA 150 Ton Packaged Water Cooled Helical Rotary Water Chiller	100,729.30	6,353.84
23 64 26 16-0010 EA 175 Ton Packaged Water Cooled Helical Rotary Water Chiller	108,180.88	6,511.13
23 64 26 16-0011 EA 190 Ton Packaged Water Cooled Helical Rotary Water Chiller	111,902.75	6,836.73
23 64 26 16-0012 EA 200 Ton Packaged Water Cooled Helical Rotary Water Chiller	130,864.42	7,166.44
23 64 26 16-0013 EA 210 Ton Packaged Water Cooled Helical Rotary Water Chiller	132,646.54	7,319.84
23 64 26 16-0014 EA 235 Ton Packaged Water Cooled Helical Rotary Water Chiller	144,096.71	7,479.97
23 64 26 16-0015 EA 255 Ton Packaged Water Cooled Helical Rotary Water Chiller	153,076.46	7,822.33
23 64 26 16-0016 EA 275 Ton Packaged Water Cooled Helical Rotary Water Chiller	161,571.04	8,138.93
23 64 26 16-0017 EA 300 Ton Packaged Water Cooled Helical Rotary Water Chiller	171,452.62	8,461.35
23 64 26 16-0018 EA 350 Ton Packaged Water Cooled Helical Rotary Water Chiller	188,219.51	9,211.30
23 64 26 16-0019 EA 400 Ton Packaged Water Cooled Helical Rotary Water Chiller	201,978.74	10,131.53
23 64 26 16-0020 EA 450 Ton Packaged Water Cooled Helical Rotary Water Chiller	212,746.56	11,145.13

23 65 Cooling Towers (23 60)

23 65 13 Forced-Draft Cooling Towers (23 65)

23 65 13 16 Closed-Circuit, Forced-Draft Cooling Towers (23 65 13)

23 65 13 16-0001 Closed-Circuit, Forced-Draft Cooling Towers (23 65 13 16)

23 65 13 16-0002 Blow-Thru Centrifugal Fan Type Galvanized Cooling Towers (23 65 13 16-0001)

Note: Including 2-speed motor internal piping, vibration switch, basin, start-up costs and equipment rigging. Excludes motor starter, piping and power wiring. Rated by cooling capacity in tons. Design temperature 95 degree F in, 85 degree F out. Excludes crane and associated personnel.

23 65 13 16-0003 EA 50 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	19,307.54	1,729.03
For Stainless Steel Cooling Tower, Add	10,028.39	
23 65 13 16-0004 EA 75 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	26,630.70	2,114.43
For Stainless Steel Cooling Tower, Add	14,084.81	
23 65 13 16-0005 EA 100 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	33,379.13	2,656.05
For Stainless Steel Cooling Tower, Add	17,465.17	
23 65 13 16-0006 EA 125 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	38,502.49	2,968.53
For Stainless Steel Cooling Tower, Add	20,239.21	
23 65 13 16-0007 EA 150 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	44,007.23	3,343.50
For Stainless Steel Cooling Tower, Add	23,179.58	
23 65 13 16-0008 EA 175 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	49,482.09	3,749.72
For Stainless Steel Cooling Tower, Add	26,077.03	
23 65 13 16-0009 EA 200 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	55,535.18	4,176.77
For Stainless Steel Cooling Tower, Add	29,296.41	
23 65 13 16-0010 EA 225 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	60,681.80	4,707.98
For Stainless Steel Cooling Tower, Add	31,871.92	
23 65 13 16-0011 EA 250 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	66,104.17	5,228.77
For Stainless Steel Cooling Tower, Add	34,619.13	
23 65 13 16-0012 EA 275 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	72,357.08	6,187.04
For Stainless Steel Cooling Tower, Add	37,452.19	
23 65 13 16-0013 EA 300 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	78,627.12	6,853.66
For Stainless Steel Cooling Tower, Add	40,564.27	
23 65 13 16-0014 EA 325 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	82,848.99	7,291.12
For Stainless Steel Cooling Tower, Add	42,710.52	
23 65 13 16-0015 EA 350 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	87,792.62	7,718.17
For Stainless Steel Cooling Tower, Add	45,232.37	
23 65 13 16-0016 EA 375 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	92,599.83	8,093.15
For Stainless Steel Cooling Tower, Add	47,754.23	
23 65 13 16-0017 EA 400 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	98,112.03	8,468.11
For Stainless Steel Cooling Tower, Add	50,705.33	
23 65 13 16-0018 EA 425 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	103,948.92	8,926.41
For Stainless Steel Cooling Tower, Add	53,763.74	
23 65 13 16-0019 EA 450 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	110,580.24	9,384.72
For Stainless Steel Cooling Tower, Add	57,305.07	
23 65 13 16-0020 EA 475 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	117,028.39	9,780.52
For Stainless Steel Cooling Tower, Add	60,792.74	
23 65 13 16-0021 EA 500 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	123,486.95	10,176.32
For Stainless Steel Cooling Tower, Add	64,280.41	
23 65 13 16-0022 EA 550 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	135,789.55	10,603.37
For Stainless Steel Cooling Tower, Add	71,255.74	
23 65 13 16-0023 EA 600 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	149,165.27	11,020.01
For Stainless Steel Cooling Tower, Add	78,874.96	
23 65 13 16-0024 EA 650 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	154,614.24	11,249.15
For Stainless Steel Cooling Tower, Add	82,094.34	
23 65 13 16-0025 EA 700 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	161,136.34	11,394.98
For Stainless Steel Cooling Tower, Add	85,957.61	
23 65 13 16-0026 EA 750 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	168,670.57	11,978.28
For Stainless Steel Cooling Tower, Add	89,928.18	
23 65 13 16-0027 EA 800 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	177,456.77	12,561.56
For Stainless Steel Cooling Tower, Add	94,649.95	
23 65 13 16-0028 EA 850 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	186,326.31	13,196.93
For Stainless Steel Cooling Tower, Add	99,371.71	
23 65 13 16-0029 EA 900 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	196,626.69	13,832.30
For Stainless Steel Cooling Tower, Add	104,951.98	
23 65 13 16-0030 EA 950 Ton Blow-Thru Centrifugal Fan Type Cooling Tower	207,251.74	14,561.41
For Stainless Steel Cooling Tower, Add	110,639.57	
23 65 13 16-0031 EA 1,000 Ton Centrifugal Type Cooling Tower	219,297.20	15,290.52
For Stainless Steel Cooling Tower, Add	117,185.65	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 65 Cooling Towers**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 65 14 Induced-Draft Cooling Towers (23 65)**23 65 14 13 Open-Circuit, Induced-Draft Counterflow Cooling Towers (23 65 14)****23 65 14 13-0001 Galvanized Induced Draft Axial Single Flow Propeller Type Cooling Towers**

(23 65 14 13)

Note: Includes internal piping, fan, motor, vibration switch, start-up costs and equipment rigging. Excludes motor starter, piping or power wiring. Rated by cooling capacity in tons. Based on design water temperature 95 degree F in, 85 degree F out 78 degree F wet bulb. 3 GPM/ton. Excludes crane and associated personnel.

23 65 14 13-0002	EA	10 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	9,825.16	1,166.58
		For Polymer Coating Over Galvanized Components, Add	1,211.29	
		For Stainless Steel Support Structure, Add	2,422.59	
23 65 14 13-0003	EA	20 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	11,661.16	1,260.33
		For Polymer Coating Over Galvanized Components, Add	1,464.82	
		For Stainless Steel Support Structure, Add	2,929.64	
23 65 14 13-0004	EA	30 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	13,956.08	1,416.56
		For Polymer Coating Over Galvanized Components, Add	1,774.69	
		For Stainless Steel Support Structure, Add	3,549.37	
23 65 14 13-0005	EA	40 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	15,489.41	1,562.39
		For Polymer Coating Over Galvanized Components, Add	1,971.87	
		For Stainless Steel Support Structure, Add	3,943.75	
23 65 14 13-0006	EA	50 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	18,368.55	1,729.03
		For Polymer Coating Over Galvanized Components, Add	2,366.25	
		For Stainless Steel Support Structure, Add	4,732.50	
23 65 14 13-0007	EA	60 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	21,391.97	1,864.45
		For Polymer Coating Over Galvanized Components, Add	2,790.08	
		For Stainless Steel Support Structure, Add	5,580.16	
23 65 14 13-0008	EA	75 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	24,564.93	2,114.43
		For Polymer Coating Over Galvanized Components, Add	3,211.34	
		For Stainless Steel Support Structure, Add	6,422.68	
23 65 14 13-0009	EA	100 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	30,562.16	2,656.05
		For Polymer Coating Over Galvanized Components, Add	3,943.75	
		For Stainless Steel Support Structure, Add	7,887.50	
23 65 14 13-0010	EA	125 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	33,315.70	2,968.53
		For Polymer Coating Over Galvanized Components, Add	4,281.78	
		For Stainless Steel Support Structure, Add	8,563.57	
23 65 14 13-0011	EA	150 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	51,049.03	3,343.50
		For Polymer Coating Over Galvanized Components, Add	6,851.16	
		For Stainless Steel Support Structure, Add	13,702.33	
23 65 14 13-0012	EA	200 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	61,754.87	4,176.77
		For Polymer Coating Over Galvanized Components, Add	8,257.06	
		For Stainless Steel Support Structure, Add	16,514.11	
23 65 14 13-0013	EA	300 Ton Induced Draft Axial Single Flow Propeller Type Cooling Tower.....	79,689.16	6,853.66
		For Polymer Coating Over Galvanized Components, Add	10,300.37	
		For Stainless Steel Support Structure, Add	20,600.75	

23 65 14 13-0014 Galvanized Induced Draft Double Flow Propeller Type Packaged Cooling Towers (23 65 14 13)

Note: 3 GPM/ton draft. Includes internal piping, fan, 2-speed motor, vibration switch, start-up costs and equipment rigging. Excludes motor starter, piping and power wiring. Excludes crane and associated personnel.

23 65 14 13-0015	EA	100 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower.....	30,562.16	2,656.05
		For Polymer Coating Over Galvanized Components, Add	3,943.75	
		For Stainless Steel Support Structure, Add	7,887.50	
23 65 14 13-0016	EA	150 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower.....	40,743.13	3,343.50
		For Polymer Coating Over Galvanized Components, Add	5,305.28	
		For Stainless Steel Support Structure, Add	10,610.56	
23 65 14 13-0017	EA	200 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower.....	51,779.23	4,176.77
		For Polymer Coating Over Galvanized Components, Add	6,760.71	
		For Stainless Steel Support Structure, Add	13,521.42	
23 65 14 13-0018	EA	250 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower.....	61,400.29	5,228.77
		For Polymer Coating Over Galvanized Components, Add	7,949.20	
		For Stainless Steel Support Structure, Add	15,898.40	
23 65 14 13-0019	EA	300 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower.....	72,876.93	6,853.66
		For Polymer Coating Over Galvanized Components, Add	9,278.54	
		For Stainless Steel Support Structure, Add	18,557.08	
23 65 14 13-0020	EA	350 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower.....	81,219.71	7,718.17
		For Polymer Coating Over Galvanized Components, Add	10,322.16	
		For Stainless Steel Support Structure, Add	20,644.31	
23 65 14 13-0021	EA	400 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower.....	90,600.13	8,468.11
		For Polymer Coating Over Galvanized Components, Add	11,549.55	
		For Stainless Steel Support Structure, Add	23,099.09	
23 65 14 13-0022	EA	450 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower.....	102,710.63	9,384.72
		For Polymer Coating Over Galvanized Components, Add	13,145.83	
		For Stainless Steel Support Structure, Add	26,291.65	
23 65 14 13-0023	EA	500 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower.....	115,885.62	10,176.32
		For Polymer Coating Over Galvanized Components, Add	14,929.90	
		For Stainless Steel Support Structure, Add	29,859.80	
23 65 14 13-0024	EA	550 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower.....	124,163.99	10,728.36
		For Polymer Coating Over Galvanized Components, Add	16,070.10	
		For Stainless Steel Support Structure, Add	32,140.20	
23 65 14 13-0025	EA	600 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower.....	133,116.63	11,020.01
		For Polymer Coating Over Galvanized Components, Add	17,311.44	
		For Stainless Steel Support Structure, Add	34,622.89	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Cooling Equipment			23 60
Cooling Towers			23 65

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 65 14 13-0026	EA		700 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	151,209.90	11,394.98
			For Polymer Coating Over Galvanized Components, Add	20,000.44	
			For Stainless Steel Support Structure, Add	40,000.87	
23 65 14 13-0027	EA		800 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	165,831.21	12,561.56
			For Polymer Coating Over Galvanized Components, Add	21,918.65	
			For Stainless Steel Support Structure, Add	43,837.31	
23 65 14 13-0028	EA		900 Ton Induced Draft Double Flow Propeller Type Packaged Cooling Tower	183,212.58	13,832.30
			For Polymer Coating Over Galvanized Components, Add	24,225.88	
			For Stainless Steel Support Structure, Add	48,451.76	
23 65 14 14 Open-Circuit, Induced-Draft Crossflow Cooling Towers (23 65 14)					
23 65 14 14-0001			Galvanized Induced Draft Crossflow Film Filled Propeller Type Cooling Towers (23 65 14 14)		
Note: Includes fan, 2-speed motor, geared speed reducer, louvers, drift eliminators, hot water distribution system, cold water collection basin, float valve and access door, vibration switch, start-up costs and equipment rigging. Excludes motor starter, piping and power wiring. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.					
23 65 14 14-0002	EA		10 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	8,327.29	1,166.58
			For Polymer Coating Over Galvanized Components, Add	986.61	
			For Stainless Steel Support Structure, Add	1,973.23	
23 65 14 14-0003	EA		15 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	8,997.39	1,187.41
			For Polymer Coating Over Galvanized Components, Add	1,084.00	
			For Stainless Steel Support Structure, Add	2,168.01	
23 65 14 14-0004	EA		20 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	9,785.08	1,291.57
			For Polymer Coating Over Galvanized Components, Add	1,177.16	
			For Stainless Steel Support Structure, Add	2,354.32	
23 65 14 14-0005	EA		25 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	11,459.67	1,354.07
			For Polymer Coating Over Galvanized Components, Add	1,414.29	
			For Stainless Steel Support Structure, Add	2,828.57	
23 65 14 14-0006	EA		30 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	12,993.10	1,416.56
			For Polymer Coating Over Galvanized Components, Add	1,630.24	
			For Stainless Steel Support Structure, Add	3,260.48	
23 65 14 14-0007	EA		35 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	14,490.90	1,489.47
			For Polymer Coating Over Galvanized Components, Add	1,837.72	
			For Stainless Steel Support Structure, Add	3,675.45	
23 65 14 14-0008	EA		40 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	15,865.39	1,562.39
			For Polymer Coating Over Galvanized Components, Add	2,028.27	
			For Stainless Steel Support Structure, Add	4,056.54	
23 65 14 14-0009	EA		45 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	17,391.42	1,645.71
			For Polymer Coating Over Galvanized Components, Add	2,239.99	
			For Stainless Steel Support Structure, Add	4,479.98	
23 65 14 14-0010	EA		50 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	18,881.84	1,729.03
			For Polymer Coating Over Galvanized Components, Add	2,443.24	
			For Stainless Steel Support Structure, Add	4,886.48	
23 65 14 14-0011	EA		60 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	21,817.96	1,864.45
			For Polymer Coating Over Galvanized Components, Add	2,853.98	
			For Stainless Steel Support Structure, Add	5,707.95	
23 65 14 14-0012	EA		70 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	25,000.79	2,010.27
			For Polymer Coating Over Galvanized Components, Add	3,298.59	
			For Stainless Steel Support Structure, Add	6,597.18	
23 65 14 14-0013	EA		75 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	26,473.37	2,114.43
			For Polymer Coating Over Galvanized Components, Add	3,497.60	
			For Stainless Steel Support Structure, Add	6,995.21	
23 65 14 14-0014	EA		80 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	28,070.96	2,291.50
			For Polymer Coating Over Galvanized Components, Add	3,696.62	
			For Stainless Steel Support Structure, Add	7,393.24	
23 65 14 14-0015	EA		90 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	29,245.11	2,468.57
			For Polymer Coating Over Galvanized Components, Add	3,832.12	
			For Stainless Steel Support Structure, Add	7,664.24	
23 65 14 14-0016	EA		100 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	31,427.05	2,656.05
			For Polymer Coating Over Galvanized Components, Add	4,073.48	
			For Stainless Steel Support Structure, Add	8,146.96	
23 65 14 14-0017	EA		125 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	32,689.21	2,968.53
			For Polymer Coating Over Galvanized Components, Add	4,187.81	
			For Stainless Steel Support Structure, Add	8,375.62	
23 65 14 14-0018	EA		150 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	37,979.38	3,343.50
			For Polymer Coating Over Galvanized Components, Add	4,890.72	
			For Stainless Steel Support Structure, Add	9,781.43	
23 65 14 14-0019	EA		175 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	41,956.22	3,749.72
			For Polymer Coating Over Galvanized Components, Add	5,390.38	
			For Stainless Steel Support Structure, Add	10,780.75	
23 65 14 14-0020	EA		200 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	44,139.82	4,176.77
			For Polymer Coating Over Galvanized Components, Add	5,614.80	
			For Stainless Steel Support Structure, Add	11,229.60	
23 65 14 14-0021	EA		225 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	51,034.97	4,707.98
			For Polymer Coating Over Galvanized Components, Add	6,520.96	
			For Stainless Steel Support Structure, Add	13,041.91	
23 65 14 14-0022	EA		250 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	55,943.68	5,228.77
			For Polymer Coating Over Galvanized Components, Add	7,130.71	
			For Stainless Steel Support Structure, Add	14,261.42	
23 65 14 14-0023	EA		275 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower	59,761.39	6,187.04
			For Polymer Coating Over Galvanized Components, Add	7,473.69	
			For Stainless Steel Support Structure, Add	14,947.39	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 65 Cooling Towers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 65 14 14-0024 EA 300 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	64,457.98 8,015.70 16,031.39	6,853.66
23 65 14 14-0025 EA 350 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	73,691.03 9,192.86 18,385.71	7,718.17
23 65 14 14-0026 EA 400 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	81,240.43 10,145.59 20,291.18	8,468.11
23 65 14 14-0027 EA 450 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	89,794.61 11,208.42 22,416.85	9,384.72
23 65 14 14-0028 EA 500 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	97,850.78 12,224.68 24,449.35	10,176.32
23 65 14 14-0029 EA 600 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	111,908.02 14,130.15 28,260.30	11,020.01
23 65 14 14-0030 EA 700 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	125,652.94 16,166.89 32,333.78	11,394.98
23 65 14 14-0031 EA 800 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	140,471.59 18,114.71 36,229.42	12,561.56
23 65 14 14-0032 EA 900 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	154,835.86 19,969.37 39,938.74	13,832.30
23 65 14 14-0033 EA 1,000 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	168,888.52 21,735.11 43,470.22	15,290.52
23 65 14 14-0034 EA 1,100 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	184,921.50 23,966.63 47,933.27	16,030.06
23 65 14 14-0035 EA 1,200 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	200,383.87 26,121.94 52,243.87	16,717.50
23 65 14 14-0036 EA 1,300 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	213,106.75 27,692.90 55,385.79	18,154.89
23 65 14 14-0037 EA 1,400 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	225,403.47 29,174.93 58,349.86	19,696.44
23 65 14 14-0038 EA 1,500 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	237,242.81 30,568.04 61,136.09	21,321.32
23 65 14 14-0039 EA 1,600 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	248,172.44 31,863.77 63,727.53	22,789.96
23 65 14 14-0040 EA 1,700 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	258,824.76 33,066.33 66,132.66	24,466.91
23 65 14 14-0041 EA 1,800 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	269,300.88 34,179.98 68,359.95	26,404.28
23 65 14 14-0042 EA 1,900 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	279,117.38 35,196.23 70,392.46	28,341.63
23 65 14 14-0043 EA 2,000 Ton Induced Draft Crossflow Film Filled Propeller Type Cooling Tower For Polymer Coating Over Galvanized Components, Add For Stainless Steel Support Structure, Add	289,445.12 36,123.56 72,247.12	30,987.27
23 65 14 14-0044 Induced Draft Crossflow Stainless Steel Propeller Type Cooling Towers ^{(23 65} ^{14 14)} Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 65 14 14-0045 EA 100 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	84,710.16 4,021.98	2,656.05
23 65 14 14-0046 EA 125 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	96,016.84 4,562.32	2,947.70
23 65 14 14-0047 EA 150 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	104,926.04 4,977.57	3,343.50
23 65 14 14-0048 EA 200 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	116,598.50 5,494.53	4,176.77
23 65 14 14-0049 EA 250 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	132,021.57 6,180.80	5,228.77
23 65 14 14-0050 EA 300 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	151,494.59 7,023.73	6,853.66
23 65 14 14-0051 EA 350 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	165,025.88 7,631.03	7,718.17
23 65 14 14-0052 EA 400 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	178,369.66 8,238.33	8,468.11
23 65 14 14-0053 EA 500 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	205,836.75 9,474.19	10,176.32
23 65 14 14-0054 EA 600 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower For Induced Draft Counter Flow Type, Add	232,543.69 10,741.83	11,020.01



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central Cooling Equipment			23 60
Cooling Towers			23 65

MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST	UNIT COST	UNIT COST
23 65 14 14-0055	EA	750 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower	288,118.59		11,978.28
		<i>For Induced Draft Counter Flow Type, Add</i>	13,416.42		
23 65 14 14-0056	EA	1,000 Ton Induced Draft Crossflow Stainless Steel Propeller Type Cooling Tower.....	374,075.90		15,290.52
		<i>For Induced Draft Counter Flow Type, Add</i>	17,504.41		
23 65 14 16 Closed-Circuit, Induced-Draft Counterflow Cooling Towers (23 65 14)					
23 65 14 16-0001		Stainless Steel Packaged Propeller Type Cooling Towers (23 65 14 16)			
Note: Including internal piping, fan, motor, vibration switch, start-up costs and equipment rigging. Excludes motor starter, piping or power wiring. Rated by cooling capacity in tons. Based on design water temperature 95 degree F in, 85 degree F out 79 degree F wet Bulb. 3 GPM/ton.					
23 65 14 16-0002		Draw-Thru Stainless Steel Propeller Type Cooling Towers (23 65 14 16-0001)			
Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.					
23 65 14 16-0003	EA	50 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	35,552.76		1,729.03
23 65 14 16-0004	EA	75 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	50,580.65		2,114.43
23 65 14 16-0005	EA	100 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	59,559.08		2,656.05
23 65 14 16-0006	EA	125 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	67,521.83		2,968.53
23 65 14 16-0007	EA	150 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	74,064.16		3,343.50
23 65 14 16-0008	EA	200 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	88,798.39		4,176.77
23 65 14 16-0009	EA	250 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	104,478.36		5,228.77
23 65 14 16-0010	EA	300 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	123,795.56		6,853.66
23 65 14 16-0011	EA	350 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	135,507.47		7,718.17
23 65 14 16-0012	EA	400 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	153,656.58		8,468.11
23 65 14 16-0013	EA	500 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	178,087.17		10,176.32
23 65 14 16-0014	EA	600 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	201,084.14		11,020.01
23 65 14 16-0015	EA	750 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	248,824.18		11,978.28
23 65 14 16-0016	EA	1,000 Ton Draw-Thru Stainless Steel Propeller Type Cooling Tower.....	317,002.89		15,123.87
23 65 14 16-0017		Belt Driven Stainless Steel Propeller Type Cooling Towers (23 65 14 16-0001)			
Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.					
23 65 14 16-0018	EA	100 Ton Belt Driven Stainless Steel Propeller Type Cooling Tower.....	62,048.08		2,656.05
23 65 14 16-0019	EA	125 Ton Belt Driven Stainless Steel Propeller Type Cooling Tower.....	67,134.37		2,968.53
23 65 14 16-0020	EA	150 Ton Belt Driven Stainless Steel Propeller Type Cooling Tower.....	72,329.03		3,343.50
23 65 14 16-0021	EA	200 Ton Belt Driven Stainless Steel Propeller Type Cooling Tower.....	85,517.63		4,176.77
23 65 14 16-0022	EA	250 Ton Belt Driven Stainless Steel Propeller Type Cooling Tower.....	94,206.51		5,228.77
23 65 14 16-0023		Fiberglass Packaged Draw-Thru Propeller Type Cooling Towers (23 65 14 16)			
Note: Includes internal piping, fan, 2-speed motor, vibration switch, start-up costs and equipment rigging. Excludes motor starter, piping and power wiring. Rated by cooling capacity in tons. Based on design water temperature 95 degree F in, 85 degree F out 78 degree F wet bulb. 3 GPM/ton. Excludes crane and associated personnel.					
23 65 14 16-0024	EA	5 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	4,138.63		1,083.25
23 65 14 16-0025	EA	8 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	4,356.38		1,135.34
23 65 14 16-0026	EA	10 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	5,056.73		1,166.58
23 65 14 16-0027	EA	15 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	5,709.35		1,187.41
23 65 14 16-0028	EA	20 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	7,462.22		1,291.57
23 65 14 16-0029	EA	25 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	7,892.03		1,354.07
23 65 14 16-0030	EA	30 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	8,913.30		1,416.56
23 65 14 16-0031	EA	40 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	10,274.66		1,562.39
23 65 14 16-0032	EA	50 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	11,465.61		1,729.03
23 65 14 16-0033	EA	60 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	12,846.44		1,864.45
23 65 14 16-0034	EA	70 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	14,812.72		2,010.27
23 65 14 16-0035	EA	80 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	16,129.98		2,291.50
23 65 14 16-0036	EA	100 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	19,528.37		2,656.05
23 65 14 16-0037	EA	125 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	24,127.68		2,968.53
23 65 14 16-0038	EA	150 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	27,097.68		3,343.50
23 65 14 16-0039	EA	175 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	32,891.94		3,749.72
23 65 14 16-0040	EA	200 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	36,684.61		4,176.77
23 65 14 16-0041	EA	225 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	40,549.83		4,707.98
23 65 14 16-0042	EA	250 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	44,243.32		5,228.77
23 65 14 16-0043	EA	300 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	53,027.82		6,853.66
23 65 14 16-0044	EA	350 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	60,260.63		7,718.17
23 65 14 16-0045	EA	400 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	66,969.87		8,468.11
23 65 14 16-0046	EA	500 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	81,414.64		9,968.01
23 65 14 16-0047	EA	600 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	92,985.01		11,020.01
23 65 14 16-0048	EA	700 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	98,373.87		8,468.11
23 65 14 16-0049	EA	800 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	112,675.19		12,561.56
23 65 14 16-0050	EA	1,000 Ton Draw-Thru Fiberglass Packaged Propeller Type Cooling Tower.....	128,592.30		10,467.97
23 65 43 Cooling Tower Basins and Accessories (23 65)					
23 65 43 00-0001		Fiberglass Cooling Tower Remote Sump Basins (23 65 43)			
Note: Includes one inlet sleeve. Excludes cover, excavation, backfill, concrete cut and concrete patch. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.					
23 65 43 00-0002	EA	30" Diameter x 30" Depth, 92 Gallon Capacity, Fiberglass Cooling Tower Sump Basin	1,282.18		
		<i>For Anti-Flotation Flanges, Add</i>	115.00		
		<i>For Perforated Basins, Add</i>	80.00		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 60 Central Cooling Equipment****23 65 Cooling Towers**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 65 43 00-0003 EA 30" Diameter x 36" Depth, 110 Gallon Capacity, Fiberglass Cooling Tower Sump Basin..... For Anti-Flotation Flanges, Add For Perforated Basins, Add	1,450.39 115.00 80.00	
23 65 43 00-0004 EA 36" Diameter x 30" Depth, 132 Gallon Capacity, Fiberglass Cooling Tower Sump Basin..... For Anti-Flotation Flanges, Add For Perforated Basins, Add	1,427.41 253.00 80.00	
23 65 43 00-0005 EA 36" Diameter x 36" Depth, 159 Gallon Capacity, Fiberglass Cooling Tower Sump Basin..... For Anti-Flotation Flanges, Add For Perforated Basins, Add	1,670.98 253.00 80.00	
23 65 43 00-0006 EA 42" Diameter x 30" Depth, 180 Gallon Capacity, Fiberglass Cooling Tower Sump Basin..... For Anti-Flotation Flanges, Add For Perforated Basins, Add	1,810.06 276.00 100.00	
23 65 43 00-0007 EA 42" Diameter x 36" Depth, 216 Gallon Capacity, Fiberglass Cooling Tower Sump Basin..... For Anti-Flotation Flanges, Add For Perforated Basins, Add	2,010.29 276.00 100.00	
23 65 43 00-0008 EA 42" Diameter x 42" Depth, 252 Gallon Capacity, Fiberglass Cooling Tower Sump Basin..... For Anti-Flotation Flanges, Add For Perforated Basins, Add	2,210.50 276.00 100.00	
23 65 43 00-0009 EA 48" Diameter x 36" Depth, 282 Gallon Capacity, Fiberglass Cooling Tower Sump Basin..... For Anti-Flotation Flanges, Add For Perforated Basins, Add	2,242.84 294.00 140.00	
23 65 43 00-0010 EA 48" Diameter x 42" Depth, 329 Gallon Capacity, Fiberglass Cooling Tower Sump Basin..... For Anti-Flotation Flanges, Add For Perforated Basins, Add	2,480.89 294.00 140.00	
23 65 43 00-0011 EA 48" Diameter x 48" Depth, 376 Gallon Capacity, Fiberglass Cooling Tower Sump Basin..... For Anti-Flotation Flanges, Add For Perforated Basins, Add	2,826.03 294.00 140.00	
23 65 43 00-0012 EA 48" Diameter x 54" Depth, 423 Gallon Capacity, Fiberglass Cooling Tower Sump Basin..... For Anti-Flotation Flanges, Add For Perforated Basins, Add	3,174.07 294.00 140.00	
23 65 43 00-0013 EA 48" Diameter x 60" Depth, 470 Gallon Capacity, Fiberglass Cooling Tower Sump Basin..... For Anti-Flotation Flanges, Add For Perforated Basins, Add	3,406.31 294.00 140.00	
23 65 43 00-0014 Cooling Tower Accessories (23 65 43)		
23 65 43 00-0015 EA 2" Deflection Vibration Isolator, Cooling Tower Accessory (M.M. Sausse RMLS-SB-EQ).....	35,628.03	
23 65 43 00-0016 EA 3" Deflection Vibration Isolator, Cooling Tower Accessory (M.M. Sausse RMLS-SB-EQ).....	41,646.83	

23 70 Central HVAC Equipment (23)

Note: New air filters shall be provided on HVAC equipment prior to turning over to owner. Where required, mechanical equipment excludes electrical connection, disconnect, or starter unless title states otherwise. See CSI section 26 05 19 16-0011 for electrical connection and termination, 26 05 83 00-0130 for terminations, 26 28 16 16-0001 for disconnect.

23 71 Thermal Storage (23 70)**23 71 13 Thermal Heat Storage (23 71)****23 71 13 23 Pressurized Water Thermal Storage Tanks (23 71 13)****23 71 13 23-0001 Nickelshield Storage Tanks (23 71 13 23)**

23 71 13 23-0002 EA 325 Gallon Nickelshield Storage Tank.....	29,964.99	197.33
23 71 13 23-0003 EA 490 Gallon Nickelshield Storage Tank.....	41,818.68	261.63
23 71 13 23-0004 EA 605 Gallon Nickelshield Storage Tank.....	47,872.87	316.44
23 71 13 23-0005 EA 740 Gallon Nickelshield Storage Tank.....	56,678.00	395.54
23 71 13 23-0006 EA 940 Gallon Nickelshield Storage Tank.....	65,928.04	525.82
23 71 13 23-0007 EA 1,505 Gallon Nickelshield Storage Tank.....	85,159.38	791.19
23 71 13 23-0008 EA 1,615 Gallon Nickelshield Storage Tank.....	96,167.44	891.14
23 71 13 23-0009 EA 2,275 Gallon Nickelshield Storage Tank.....	132,071.89	1,183.67
23 71 13 23-0010 EA 3,815 Gallon Nickelshield Storage Tank.....	170,921.78	1,376.06

23 72 Air-To-Air Energy Recovery Equipment (23 70)**23 72 13 Heat-Wheel Air-To-Air Energy-Recovery Equipment (23 72)****23 72 13 00-0001 Enthalpy Recovery Wheel (23 72 13)**

23 72 13 00-0002 EA Up To 1,000 CFM Enthalpy Recovery Wheel.....	10,524.54	742.92
23 72 13 00-0003 EA >1,000 To 2,000 CFM Enthalpy Recovery Wheel.....	11,673.79	891.72
23 72 13 00-0004 EA >2,000 To 4,000 CFM Enthalpy Recovery Wheel.....	14,607.91	1,114.66
23 72 13 00-0005 EA >4,000 To 6,000 CFM Enthalpy Recovery Wheel.....	17,087.15	1,273.49
23 72 13 00-0006 EA >6,000 To 8,000 CFM Enthalpy Recovery Wheel.....	18,917.13	1,337.59
23 72 13 00-0007 EA >8,000 To 10,000 CFM Enthalpy Recovery Wheel.....	23,012.38	1,486.38
23 72 13 00-0008 EA >10,000 To 15,000 CFM Enthalpy Recovery Wheel.....	30,628.53	1,560.51
23 72 13 00-0009 EA >15,000 To 20,000 CFM Enthalpy Recovery Wheel.....	38,188.76	1,671.98
23 72 13 00-0010 EA >20,000 To 25,000 CFM Enthalpy Recovery Wheel.....	46,263.46	1,910.52
23 72 13 00-0011 EA >25,000 To 30,000 CFM Enthalpy Recovery Wheel.....	51,800.64	2,452.23
23 72 13 00-0012 EA >30,000 To 40,000 CFM Enthalpy Recovery Wheel.....	69,496.63	2,786.63
23 72 13 00-0013 EA >40,000 To 50,000 CFM Enthalpy Recovery Wheel.....	82,657.07	3,343.96

23 72 16 Heat-Pipe Air-To-Air Energy-Recovery Equipment (23 72)



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Air-To-Air Energy Recovery Equipment			23 72

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 72 16 00-0001		Glycol Heat Pipe Type, 50 Percent Efficient (23 72 16)		
23 72 16 00-0002	EA	100 MBH, 1,700 CFM Glycol Heat Recovery Unit	19,088.18	557.32
23 72 16 00-0003	EA	160 MBH, 2,700 CFM Glycol Heat Recovery Unit	30,032.37	743.14
23 72 16 00-0004	EA	620 MBH, 4,000 CFM Glycol Heat Recovery Unit	44,519.93	1,114.66
23 73 Indoor Central-Station Air-Handling Units (23 70)				
23 73 13 Modular Indoor Central-Station Air-Handling Units (23 73)				
Note: Sized by CFM. Includes motor drive vibration isolators. Use modifiers for Filters and heating and cooling coils. Includes double wall insulated casing, fan section, fan motor, internal dampers, starter, vibration isolators and equipment rigging. Variable speed drives are included on units with 10 HP or greater fans. Modifiers include cooling coil sections with 6 row aluminum fin coil and drain pan, heating coil section with 1 row aluminum fin coil, and filter section with replaceable filters.				
23 73 13 00-0001		Single Zone Units (23 73 13)		
Note: Horizontal/vertical draw-thru fan, motor and cabinet.				
23 73 13 00-0002	EA	300 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	2,655.76	603.86
		For Flat Filter Box And Throwaway Filters, Add	222.44	
		For Medium Capacity Filter Box And Throwaway Filters, Add	419.01	
		For Combination Filter Mixing Box And Throwaway Filters, Add	624.20	
		For Manual Roll Filter, Add	1,072.47	
		For Automatic Roll Filter, Add	1,162.13	
		For Hot Water Heating Coil, Aluminum Fins, Add	534.54	
		For Electric Heating Coil, Add	893.16	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	893.16	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	803.51	
		For Steam Heating Coil, Aluminum Fins, Add	713.85	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	581.06	
		For Chilled Water Cooling Coil, Copper Fins, Add	1,072.47	
		For Direct Expansion Cooling Coil, Copper Fins, Add	982.82	
		For Hot Water Heating Coil, Copper Fins, Add	713.85	
		For Variable Air Volume, Add	251.03	
		For Economizer, Panel, Controls And Damper(s), Add	1,243.86	
		For 2 Coils, Independent Circuits, Add	301.44	
23 73 13 00-0003	EA	500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	4,206.77	724.63
		For Flat Filter Box And Throwaway Filters, Add	368.96	
		For Medium Capacity Filter Box And Throwaway Filters, Add	706.89	
		For Combination Filter Mixing Box And Throwaway Filters, Add	1,055.16	
		For Manual Roll Filter, Add	1,848.26	
		For Automatic Roll Filter, Add	2,006.88	
		For Hot Water Heating Coil, Aluminum Fins, Add	896.54	
		For Electric Heating Coil, Add	1,531.02	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	1,531.02	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	1,372.40	
		For Steam Heating Coil, Aluminum Fins, Add	1,213.78	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,003.44	
		For Chilled Water Cooling Coil, Copper Fins, Add	1,848.26	
		For Direct Expansion Cooling Coil, Copper Fins, Add	1,689.64	
		For Hot Water Heating Coil, Copper Fins, Add	1,213.78	
		For Variable Air Volume, Add	444.14	
		For Economizer, Panel, Controls And Damper(s), Add	1,364.06	
		For 2 Coils, Independent Circuits, Add	484.13	
23 73 13 00-0004	EA	800 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	4,757.52	778.23
		For Flat Filter Box And Throwaway Filters, Add	420.17	
		For Medium Capacity Filter Box And Throwaway Filters, Add	806.99	
		For Combination Filter Mixing Box And Throwaway Filters, Add	1,204.92	
		For Manual Roll Filter, Add	2,116.38	
		For Automatic Roll Filter, Add	2,298.67	
		For Hot Water Heating Coil, Aluminum Fins, Add	1,022.63	
		For Electric Heating Coil, Add	1,751.80	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	1,751.80	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	1,569.50	
		For Steam Heating Coil, Aluminum Fins, Add	1,387.21	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,149.34	
		For Chilled Water Cooling Coil, Copper Fins, Add	2,116.38	
		For Direct Expansion Cooling Coil, Copper Fins, Add	1,934.09	
		For Hot Water Heating Coil, Copper Fins, Add	1,387.21	
		For Variable Air Volume, Add	510.42	
		For Economizer, Panel, Controls And Damper(s), Add	1,418.18	
		For 2 Coils, Independent Circuits, Add	548.67	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0005	EA	1,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	5,370.01	836.24
		For Flat Filter Box And Throwaway Filters, Add	477.26	
		For Medium Capacity Filter Box And Throwaway Filters, Add	918.68	
		For Combination Filter Mixing Box And Throwaway Filters, Add	1,372.04	
		For Manual Roll Filter, Add	2,415.84	
		For Automatic Roll Filter, Add	2,624.60	
		For Hot Water Heating Coil, Aluminum Fins, Add	1,163.28	
		For Electric Heating Coil, Add	1,998.32	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	1,998.32	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	1,789.56	
		For Steam Heating Coil, Aluminum Fins, Add	1,580.80	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,372.30	
		For Chilled Water Cooling Coil, Copper Fins, Add	2,415.84	
		For Direct Expansion Cooling Coil, Copper Fins, Add	2,207.08	
		For Hot Water Heating Coil, Copper Fins, Add	1,580.80	
		For Variable Air Volume, Add	584.53	
		For Economizer, Panel, Controls And Damper(s), Add	1,476.37	
		For 2 Coils, Independent Circuits, Add	620.50	
23 73 13 00-0006	EA	1,200 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	6,092.65	899.65
		For Flat Filter Box And Throwaway Filters, Add	545.08	
		For Medium Capacity Filter Box And Throwaway Filters, Add	1,051.65	
		For Combination Filter Mixing Box And Throwaway Filters, Add	1,571.05	
		For Manual Roll Filter, Add	2,773.28	
		For Automatic Roll Filter, Add	3,013.73	
		For Hot Water Heating Coil, Aluminum Fins, Add	1,330.60	
		For Electric Heating Coil, Add	2,292.39	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	2,292.39	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	2,051.94	
		For Steam Heating Coil, Aluminum Fins, Add	1,811.50	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,506.87	
		For Chilled Water Cooling Coil, Copper Fins, Add	2,773.28	
		For Direct Expansion Cooling Coil, Copper Fins, Add	2,532.84	
		For Hot Water Heating Coil, Copper Fins, Add	1,811.50	
		For Variable Air Volume, Add	673.25	
		For Economizer, Panel, Controls And Damper(s), Add	1,538.60	
		For 2 Coils, Independent Circuits, Add	705.44	
23 73 13 00-0007	EA	1,400 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	6,935.64	966.83
		For Flat Filter Box And Throwaway Filters, Add	624.51	
		For Medium Capacity Filter Box And Throwaway Filters, Add	1,207.58	
		For Combination Filter Mixing Box And Throwaway Filters, Add	1,804.46	
		For Manual Roll Filter, Add	3,193.09	
		For Automatic Roll Filter, Add	3,470.81	
		For Hot Water Heating Coil, Aluminum Fins, Add	1,526.74	
		For Electric Heating Coil, Add	2,637.64	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	2,637.64	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	2,359.91	
		For Steam Heating Coil, Aluminum Fins, Add	2,082.19	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,735.41	
		For Chilled Water Cooling Coil, Copper Fins, Add	3,193.09	
		For Direct Expansion Cooling Coil, Copper Fins, Add	2,915.36	
		For Hot Water Heating Coil, Copper Fins, Add	2,082.19	
		For Variable Air Volume, Add	777.63	
		For Economizer, Panel, Controls And Damper(s), Add	1,606.80	
		For 2 Coils, Independent Circuits, Add	804.65	
23 73 13 00-0008	EA	1,600 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	7,595.40	1,039.39
		For Flat Filter Box And Throwaway Filters, Add	685.45	
		For Medium Capacity Filter Box And Throwaway Filters, Add	1,326.46	
		For Combination Filter Mixing Box And Throwaway Filters, Add	1,982.27	
		For Manual Roll Filter, Add	3,510.69	
		For Automatic Roll Filter, Add	3,816.38	
		For Hot Water Heating Coil, Aluminum Fins, Add	1,676.59	
		For Electric Heating Coil, Add	2,899.32	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	2,899.32	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	2,593.64	
		For Steam Heating Coil, Aluminum Fins, Add	2,287.96	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	1,908.19	
		For Chilled Water Cooling Coil, Copper Fins, Add	3,510.69	
		For Direct Expansion Cooling Coil, Copper Fins, Add	3,205.01	
		For Hot Water Heating Coil, Copper Fins, Add	2,287.96	
		For Variable Air Volume, Add	855.91	
		For Economizer, Panel, Controls And Damper(s), Add	1,677.21	
		For 2 Coils, Independent Circuits, Add	881.81	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0009	EA	1,800 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	8,310.02	1,120.16
		For Flat Filter Box And Throwaway Filters, Add	751.01	
		For Medium Capacity Filter Box And Throwaway Filters, Add	1,454.02	
		For Combination Filter Mixing Box And Throwaway Filters, Add	2,173.03	
		For Manual Roll Filter, Add	3,850.56	
		For Automatic Roll Filter, Add	4,186.07	
		For Hot Water Heating Coil, Aluminum Fins, Add	1,837.52	
		For Electric Heating Coil, Add	3,179.55	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	3,179.55	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	2,844.04	
		For Steam Heating Coil, Aluminum Fins, Add	2,508.53	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	2,093.03	
		For Chilled Water Cooling Coil, Copper Fins, Add	3,850.56	
		For Direct Expansion Cooling Coil, Copper Fins, Add	3,515.05	
		For Hot Water Heating Coil, Copper Fins, Add	2,508.53	
		For Variable Air Volume, Add	939.42	
		For Economizer, Panel, Controls And Damper(s), Add	1,629.94	
		For 2 Coils, Independent Circuits, Add	965.20	
23 73 13 00-0010	EA	2,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	9,096.85	1,200.93
		For Flat Filter Box And Throwaway Filters, Add	823.90	
		For Medium Capacity Filter Box And Throwaway Filters, Add	1,596.33	
		For Combination Filter Mixing Box And Throwaway Filters, Add	2,385.91	
		For Manual Roll Filter, Add	4,231.20	
		For Automatic Roll Filter, Add	4,600.26	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,016.86	
		For Electric Heating Coil, Add	3,493.08	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	3,493.08	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	3,124.03	
		For Steam Heating Coil, Aluminum Fins, Add	2,754.97	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	2,300.13	
		For Chilled Water Cooling Coil, Copper Fins, Add	4,231.20	
		For Direct Expansion Cooling Coil, Copper Fins, Add	3,862.14	
		For Hot Water Heating Coil, Copper Fins, Add	2,754.97	
		For Variable Air Volume, Add	1,033.36	
		For Economizer, Panel, Controls And Damper(s), Add	1,693.64	
		For 2 Coils, Independent Circuits, Add	1,057.31	
23 73 13 00-0011	EA	2,250 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	9,821.68	1,290.86
		For Flat Filter Box And Throwaway Filters, Add	889.96	
		For Medium Capacity Filter Box And Throwaway Filters, Add	1,724.61	
		For Combination Filter Mixing Box And Throwaway Filters, Add	2,577.69	
		For Manual Roll Filter, Add	4,572.09	
		For Automatic Roll Filter, Add	4,970.97	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,178.81	
		For Electric Heating Coil, Add	3,774.33	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	3,774.33	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	3,375.45	
		For Steam Heating Coil, Aluminum Fins, Add	2,976.57	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	2,485.48	
		For Chilled Water Cooling Coil, Copper Fins, Add	4,572.09	
		For Direct Expansion Cooling Coil, Copper Fins, Add	4,173.21	
		For Hot Water Heating Coil, Copper Fins, Add	2,976.57	
		For Variable Air Volume, Add	1,116.86	
		For Economizer, Panel, Controls And Damper(s), Add	1,764.24	
		For 2 Coils, Independent Circuits, Add	1,141.72	
23 73 13 00-0012	EA	2,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	10,595.37	1,388.99
		For Flat Filter Box And Throwaway Filters, Add	960.34	
		For Medium Capacity Filter Box And Throwaway Filters, Add	1,861.15	
		For Combination Filter Mixing Box And Throwaway Filters, Add	2,781.80	
		For Manual Roll Filter, Add	4,934.64	
		For Automatic Roll Filter, Add	5,365.20	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,351.24	
		For Electric Heating Coil, Add	4,073.50	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	4,073.50	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	3,642.94	
		For Steam Heating Coil, Aluminum Fins, Add	3,212.37	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	2,682.60	
		For Chilled Water Cooling Coil, Copper Fins, Add	4,934.64	
		For Direct Expansion Cooling Coil, Copper Fins, Add	4,504.07	
		For Hot Water Heating Coil, Copper Fins, Add	3,212.37	
		For Variable Air Volume, Add	1,205.59	
		For Economizer, Panel, Controls And Damper(s), Add	1,841.22	
		For 2 Coils, Independent Circuits, Add	1,231.76	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0013	EA	3,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	12,324.67 1,117.63 2,166.36 3,238.05 5,745.03 6,246.43 2,736.66 4,742.24 4,742.24 4,240.84 3,739.45 3,123.21 5,745.03 5,243.64 3,739.45 1,403.91 2,013.21 1,433.03	1,607.78
23 73 13 00-0014	EA	3,250 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	12,906.96 1,167.25 2,260.42 3,378.29 5,987.79 6,509.69 2,856.39 4,943.99 4,943.99 4,222.09 3,900.19 3,254.84 5,987.79 5,465.89 3,900.19 1,461.32 2,107.94 1,499.46	1,727.80
23 73 13 00-0015	EA	3,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	13,500.75 1,217.44 2,355.30 3,519.68 6,231.69 6,774.10 2,977.28 5,146.89 5,146.89 4,604.49 4,062.09 3,387.05 6,231.69 5,689.29 4,062.09 1,518.73 2,208.99 1,567.04	1,856.87
23 73 13 00-0016	EA	4,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	14,806.16 1,327.44 2,562.99 3,829.16 6,764.84 7,351.98 3,242.03 5,590.57 5,590.57 5,003.44 4,416.30 3,675.99 6,764.84 6,177.71 4,416.30 1,643.98 2,165.37 1,715.47	2,143.71



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0017	EA	4,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	14,806.16 1,327.44 2,562.99 3,829.16 6,764.84 7,351.98 3,242.03 5,590.57 5,590.57 5,003.44 4,416.30 3,675.99 6,764.84 6,177.71 4,416.30 1,643.98 2,165.37 1,715.47	2,143.71
23 73 13 00-0018	EA	5,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	16,230.16 1,447.11 2,788.67 4,165.41 7,343.40 7,979.00 3,529.81 6,072.21 6,072.21 5,436.61 4,801.01 3,989.50 7,343.40 6,707.80 4,801.01 1,779.68 2,347.28 1,877.26	2,462.25
23 73 13 00-0019	EA	5,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	17,050.95 1,514.24 2,913.97 4,351.87 7,660.34 8,322.03 3,690.18 6,336.95 6,336.95 5,675.26 5,013.56 4,161.02 7,660.34 6,998.64 5,013.56 1,852.74 2,466.83 1,969.77	2,671.33
23 73 13 00-0020	EA	6,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	17,855.87 1,580.58 3,038.16 4,536.74 7,975.68 8,663.47 3,848.95 6,600.11 6,600.11 5,912.32 5,224.53 4,331.74 7,975.68 7,287.90 5,224.53 1,925.81 2,580.04 2,060.70	2,869.85

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0021	EA	6,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	18,665.57 1,647.16 3,162.69 4,722.09 8,291.51 9,005.39 4,008.21 6,863.74 6,863.74 6,149.86 5,435.97 4,502.70 8,291.51 7,577.63 5,435.97 1,998.87 2,695.16 2,152.11	3,072.15
23 73 13 00-0022	EA	7,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	19,598.43 1,723.63 3,305.53 4,934.67 8,653.20 9,396.90 4,190.96 7,165.79 7,165.79 6,722.08 5,678.37 4,698.45 8,653.20 7,909.49 5,678.37 2,082.38 2,829.72 2,257.33	3,306.90
23 73 13 00-0023	EA	7,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	20,545.06 1,800.78 3,449.33 5,148.62 9,016.27 9,789.80 4,375.09 7,469.21 7,469.21 6,695.68 5,922.15 4,894.90 9,016.27 8,242.74 5,922.15 2,165.88 2,702.34 2,363.92	3,543.16
23 73 13 00-0024	EA	8,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	21,520.01 1,879.35 3,595.12 5,365.41 9,382.17 10,185.52 4,562.06 7,775.47 7,775.47 6,972.11 6,168.76 5,092.76 9,382.17 8,578.82 6,168.76 2,249.39 2,815.89 2,473.34	3,815.55



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0025	EA	9,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	22,630.54	4,133.43
		For Flat Filter Box And Throwaway Filters, Add	1,968.43	
		For Medium Capacity Filter Box And Throwaway Filters, Add	3,760.08	
		For Combination Filter Mixing Box And Throwaway Filters, Add	5,610.66	
		For Manual Roll Filter, Add	9,795.18	
		For Automatic Roll Filter, Add	10,632.08	
		For Hot Water Heating Coil, Aluminum Fins, Add	4,773.76	
		For Electric Heating Coil, Add	8,121.37	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	8,121.37	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	7,284.47	
		For Steam Heating Coil, Aluminum Fins, Add	6,447.57	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	5,316.04	
		For Chilled Water Cooling Coil, Copper Fins, Add	9,795.18	
		For Direct Expansion Cooling Coil, Copper Fins, Add	8,958.27	
		For Hot Water Heating Coil, Copper Fins, Add	6,447.57	
		For Variable Air Volume, Add	2,343.33	
		For Economizer, Panel, Controls And Damper(s), Add	2,947.75	
		For 2 Coils, Independent Circuits, Add	2,597.82	
23 73 13 00-0026	EA	10,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	23,715.05	4,413.15
		For Flat Filter Box And Throwaway Filters, Add	2,056.21	
		For Medium Capacity Filter Box And Throwaway Filters, Add	3,923.23	
		For Combination Filter Mixing Box And Throwaway Filters, Add	5,653.32	
		For Manual Roll Filter, Add	10,205.58	
		For Automatic Roll Filter, Add	11,076.04	
		For Hot Water Heating Coil, Aluminum Fins, Add	4,982.86	
		For Electric Heating Coil, Add	8,464.68	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	8,464.68	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	7,594.22	
		For Steam Heating Coil, Aluminum Fins, Add	6,723.77	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	5,538.02	
		For Chilled Water Cooling Coil, Copper Fins, Add	10,205.58	
		For Direct Expansion Cooling Coil, Copper Fins, Add	9,335.13	
		For Hot Water Heating Coil, Copper Fins, Add	6,723.77	
		For Variable Air Volume, Add	2,437.27	
		For Economizer, Panel, Controls And Damper(s), Add	3,071.80	
		For 2 Coils, Independent Circuits, Add	2,719.69	
23 73 13 00-0027	EA	11,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	23,828.21	4,273.08
		For Flat Filter Box And Throwaway Filters, Add	2,078.64	
		For Medium Capacity Filter Box And Throwaway Filters, Add	3,974.77	
		For Combination Filter Mixing Box And Throwaway Filters, Add	5,931.74	
		For Manual Roll Filter, Add	10,367.88	
		For Automatic Roll Filter, Add	11,255.11	
		For Hot Water Heating Coil, Aluminum Fins, Add	5,044.51	
		For Electric Heating Coil, Add	8,593.42	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	8,593.42	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	7,706.19	
		For Steam Heating Coil, Aluminum Fins, Add	6,818.96	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	5,627.55	
		For Chilled Water Cooling Coil, Copper Fins, Add	10,367.88	
		For Direct Expansion Cooling Coil, Copper Fins, Add	9,480.65	
		For Hot Water Heating Coil, Copper Fins, Add	6,818.96	
		For Variable Air Volume, Add	2,484.24	
		For Economizer, Panel, Controls And Damper(s), Add	3,005.09	
		For 2 Coils, Independent Circuits, Add	2,737.71	
23 73 13 00-0028	EA	12,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	24,851.34	4,740.86
		For Flat Filter Box And Throwaway Filters, Add	2,146.57	
		For Medium Capacity Filter Box And Throwaway Filters, Add	4,090.00	
		For Combination Filter Mixing Box And Throwaway Filters, Add	6,101.15	
		For Manual Roll Filter, Add	10,621.17	
		For Automatic Roll Filter, Add	11,525.17	
		For Hot Water Heating Coil, Aluminum Fins, Add	5,197.14	
		For Electric Heating Coil, Add	8,813.16	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	8,813.16	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	7,909.16	
		For Steam Heating Coil, Aluminum Fins, Add	7,005.15	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	5,762.58	
		For Chilled Water Cooling Coil, Copper Fins, Add	10,621.17	
		For Direct Expansion Cooling Coil, Copper Fins, Add	9,717.16	
		For Hot Water Heating Coil, Copper Fins, Add	7,005.15	
		For Variable Air Volume, Add	2,531.21	
		For Economizer, Panel, Controls And Damper(s), Add	3,211.38	
		For 2 Coils, Independent Circuits, Add	2,846.74	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0029	EA	13,700 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan 26,174.65	26,174.65	4,931.29
		For Flat Filter Box And Throwaway Filters, Add	2,266.79	
		For Medium Capacity Filter Box And Throwaway Filters, Add	4,323.18	
		For Combination Filter Mixing Box And Throwaway Filters, Add	6,449.70	
		For Manual Roll Filter, Add	11,239.98	
		For Automatic Roll Filter, Add	12,198.04	
		For Hot Water Heating Coil, Aluminum Fins, Add	5,491.64	
		For Electric Heating Coil, Add	9,323.87	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	9,323.87	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	8,365.81	
		For Steam Heating Coil, Aluminum Fins, Add	7,407.75	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	6,099.02	
		For Chilled Water Cooling Coil, Copper Fins, Add	11,239.98	
		For Direct Expansion Cooling Coil, Copper Fins, Add	10,281.93	
		For Hot Water Heating Coil, Copper Fins, Add	7,407.75	
		For Variable Air Volume, Add	2,682.56	
		For Economizer, Panel, Controls And Damper(s), Add	2,802.70	
		For 2 Coils, Independent Circuits, Add	3,000.69	
23 73 13 00-0030	EA	15,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan 27,565.32	27,565.32	5,122.26
		For Flat Filter Box And Throwaway Filters, Add	2,390.38	
		For Medium Capacity Filter Box And Throwaway Filters, Add	4,561.06	
		For Combination Filter Mixing Box And Throwaway Filters, Add	6,804.98	
		For Manual Roll Filter, Add	11,865.54	
		For Automatic Roll Filter, Add	12,877.65	
		For Hot Water Heating Coil, Aluminum Fins, Add	5,792.87	
		For Electric Heating Coil, Add	9,841.31	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	9,841.31	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	8,529.20	
		For Steam Heating Coil, Aluminum Fins, Add	7,817.09	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	6,438.82	
		For Chilled Water Cooling Coil, Copper Fins, Add	11,865.54	
		For Direct Expansion Cooling Coil, Copper Fins, Add	10,853.42	
		For Hot Water Heating Coil, Copper Fins, Add	7,817.09	
		For Variable Air Volume, Add	2,833.91	
		For Economizer, Panel, Controls And Damper(s), Add	2,864.62	
		For 2 Coils, Independent Circuits, Add	3,161.38	
23 73 13 00-0031	EA	16,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan 29,042.57	29,042.57	5,319.27
		For Flat Filter Box And Throwaway Filters, Add	2,525.75	
		For Medium Capacity Filter Box And Throwaway Filters, Add	4,824.39	
		For Combination Filter Mixing Box And Throwaway Filters, Add	7,198.74	
		For Manual Roll Filter, Add	12,566.85	
		For Automatic Roll Filter, Add	13,640.47	
		For Hot Water Heating Coil, Aluminum Fins, Add	6,125.12	
		For Electric Heating Coil, Add	10,419.60	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	10,419.60	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	9,345.98	
		For Steam Heating Coil, Aluminum Fins, Add	8,272.36	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	6,820.23	
		For Chilled Water Cooling Coil, Copper Fins, Add	12,566.85	
		For Direct Expansion Cooling Coil, Copper Fins, Add	11,493.23	
		For Hot Water Heating Coil, Copper Fins, Add	8,272.36	
		For Variable Air Volume, Add	3,006.14	
		For Economizer, Panel, Controls And Damper(s), Add	2,914.03	
		For 2 Coils, Independent Circuits, Add	3,333.71	
23 73 13 00-0032	EA	17,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan 30,579.98	30,579.98	5,516.49
		For Flat Filter Box And Throwaway Filters, Add	2,664.13	
		For Medium Capacity Filter Box And Throwaway Filters, Add	5,091.94	
		For Combination Filter Mixing Box And Throwaway Filters, Add	7,598.52	
		For Manual Roll Filter, Add	13,274.17	
		For Automatic Roll Filter, Add	14,409.30	
		For Hot Water Heating Coil, Aluminum Fins, Add	6,463.39	
		For Electric Heating Coil, Add	11,003.91	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	11,003.91	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	9,868.78	
		For Steam Heating Coil, Aluminum Fins, Add	8,733.65	
		For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add	7,204.65	
		For Chilled Water Cooling Coil, Copper Fins, Add	13,274.17	
		For Direct Expansion Cooling Coil, Copper Fins, Add	12,139.04	
		For Hot Water Heating Coil, Copper Fins, Add	8,733.65	
		For Variable Air Volume, Add	3,178.37	
		For Economizer, Panel, Controls And Damper(s), Add	2,975.47	
		For 2 Coils, Independent Circuits, Add	3,512.05	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0033	EA	20,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	34,101.37	5,914.08
		For Flat Filter Box And Throwaway Filters, Add	2,987.45	
		For Medium Capacity Filter Box And Throwaway Filters, Add	5,721.29	
		For Combination Filter Mixing Box And Throwaway Filters, Add	9,822.04	
		For Manual Roll Filter, Add	14,182.13	
		For Automatic Roll Filter, Add	14,951.56	
		For Hot Water Heating Coil, Aluminum Fins, Add	5,974.90	
		For Electric Heating Coil, Add	6,487.85	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	11,104.42	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	9,822.04	
		For Steam Heating Coil, Aluminum Fins, Add	8,539.66	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	6,834.59	
		For Chilled Water Cooling Coil, Copper Fins, Add	13,669.18	
		For Direct Expansion Cooling Coil, Copper Fins, Add	12,386.80	
		For Hot Water Heating Coil, Copper Fins, Add	9,822.04	
		For Variable Air Volume, Add	3,590.67	
		For Economizer, Panel, Controls And Damper(s), Add	3,214.41	
		For 2 Coils, Independent Circuits, Add	3,923.09	
23 73 13 00-0034	EA	22,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	37,842.80	6,373.76
		For Flat Filter Box And Throwaway Filters, Add	3,327.36	
		For Medium Capacity Filter Box And Throwaway Filters, Add	6,380.57	
		For Combination Filter Mixing Box And Throwaway Filters, Add	10,960.39	
		For Manual Roll Filter, Add	15,840.15	
		For Automatic Roll Filter, Add	16,701.28	
		For Hot Water Heating Coil, Aluminum Fins, Add	6,654.73	
		For Electric Heating Coil, Add	7,228.81	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	12,395.62	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	10,960.39	
		For Steam Heating Coil, Aluminum Fins, Add	9,525.17	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	7,633.03	
		For Chilled Water Cooling Coil, Copper Fins, Add	15,266.06	
		For Direct Expansion Cooling Coil, Copper Fins, Add	13,830.84	
		For Hot Water Heating Coil, Copper Fins, Add	10,960.39	
		For Variable Air Volume, Add	4,018.62	
		For Economizer, Panel, Controls And Damper(s), Add	3,334.21	
		For 2 Coils, Independent Circuits, Add	4,358.37	
23 73 13 00-0035	EA	25,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	41,934.86	6,829.35
		For Flat Filter Box And Throwaway Filters, Add	3,705.31	
		For Medium Capacity Filter Box And Throwaway Filters, Add	7,117.72	
		For Combination Filter Mixing Box And Throwaway Filters, Add	12,236.32	
		For Manual Roll Filter, Add	17,705.45	
		For Automatic Roll Filter, Add	18,670.59	
		For Hot Water Heating Coil, Aluminum Fins, Add	7,410.62	
		For Electric Heating Coil, Add	8,054.05	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	13,844.89	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	12,236.32	
		For Steam Heating Coil, Aluminum Fins, Add	10,627.76	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	8,531.01	
		For Chilled Water Cooling Coil, Copper Fins, Add	17,062.03	
		For Direct Expansion Cooling Coil, Copper Fins, Add	15,453.46	
		For Hot Water Heating Coil, Copper Fins, Add	12,236.32	
		For Variable Air Volume, Add	4,503.99	
		For Economizer, Panel, Controls And Damper(s), Add	3,443.61	
		For 2 Coils, Independent Circuits, Add	4,836.91	
23 73 13 00-0036	EA	27,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	51,658.64	7,355.04
		For Flat Filter Box And Throwaway Filters, Add	4,640.71	
		For Medium Capacity Filter Box And Throwaway Filters, Add	8,966.32	
		For Combination Filter Mixing Box And Throwaway Filters, Add	15,454.73	
		For Manual Roll Filter, Add	22,451.16	
		For Automatic Roll Filter, Add	23,685.83	
		For Hot Water Heating Coil, Aluminum Fins, Add	9,281.41	
		For Electric Heating Coil, Add	10,104.52	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	17,512.51	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	15,454.73	
		For Steam Heating Coil, Aluminum Fins, Add	13,396.96	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	10,814.03	
		For Chilled Water Cooling Coil, Copper Fins, Add	21,628.05	
		For Direct Expansion Cooling Coil, Copper Fins, Add	19,570.28	
		For Hot Water Heating Coil, Copper Fins, Add	15,454.73	
		For Variable Air Volume, Add	5,761.77	
		For Economizer, Panel, Controls And Damper(s), Add	3,573.05	
		For 2 Coils, Independent Circuits, Add	5,988.97	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 73 13 00-0037	EA	30,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	57,730.17	7,850.43
		For Flat Filter Box And Throwaway Filters, Add	5,212.69	
		For Medium Capacity Filter Box And Throwaway Filters, Add	10,089.18	
		For Combination Filter Mixing Box And Throwaway Filters, Add	17,403.91	
		For Manual Roll Filter, Add	25,312.92	
		For Automatic Roll Filter, Add	26,708.62	
		For Hot Water Heating Coil, Aluminum Fins, Add	10,425.37	
		For Electric Heating Coil, Add	11,355.85	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	19,730.09	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	17,403.91	
		For Steam Heating Coil, Aluminum Fins, Add	15,077.73	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	12,191.22	
		For Chilled Water Cooling Coil, Copper Fins, Add	24,382.45	
		For Direct Expansion Cooling Coil, Copper Fins, Add	22,056.27	
		For Hot Water Heating Coil, Copper Fins, Add	17,403.91	
		For Variable Air Volume, Add	6,513.30	
		For Economizer, Panel, Controls And Damper(s), Add	3,445.99	
		For 2 Coils, Independent Circuits, Add	6,703.49	
23 73 13 00-0038	EA	32,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	63,254.16	8,453.74
		For Flat Filter Box And Throwaway Filters, Add	5,721.88	
		For Medium Capacity Filter Box And Throwaway Filters, Add	11,081.63	
		For Combination Filter Mixing Box And Throwaway Filters, Add	19,121.26	
		For Manual Roll Filter, Add	27,822.44	
		For Automatic Roll Filter, Add	29,357.94	
		For Hot Water Heating Coil, Aluminum Fins, Add	11,443.76	
		For Electric Heating Coil, Add	12,467.42	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	21,680.43	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	19,721.26	
		For Steam Heating Coil, Aluminum Fins, Add	16,562.09	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	13,399.39	
		For Chilled Water Cooling Coil, Copper Fins, Add	26,798.77	
		For Direct Expansion Cooling Coil, Copper Fins, Add	24,239.60	
		For Hot Water Heating Coil, Copper Fins, Add	19,121.26	
		For Variable Air Volume, Add	7,165.67	
		For Economizer, Panel, Controls And Damper(s), Add	3,575.62	
		For 2 Coils, Independent Circuits, Add	7,349.08	
23 73 13 00-0039	EA	35,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	69,405.34	9,579.82
		For Flat Filter Box And Throwaway Filters, Add	6,284.79	
		For Medium Capacity Filter Box And Throwaway Filters, Add	12,176.14	
		For Combination Filter Mixing Box And Throwaway Filters, Add	21,013.17	
		For Manual Roll Filter, Add	30,582.56	
		For Automatic Roll Filter, Add	32,271.28	
		For Hot Water Heating Coil, Aluminum Fins, Add	12,569.59	
		For Electric Heating Coil, Add	13,695.40	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	23,827.70	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	21,013.17	
		For Steam Heating Coil, Aluminum Fins, Add	18,198.64	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	14,728.38	
		For Chilled Water Cooling Coil, Copper Fins, Add	29,456.75	
		For Direct Expansion Cooling Coil, Copper Fins, Add	26,642.22	
		For Hot Water Heating Coil, Copper Fins, Add	21,013.17	
		For Variable Air Volume, Add	7,880.68	
		For Economizer, Panel, Controls And Damper(s), Add	3,732.22	
		For 2 Coils, Independent Circuits, Add	8,066.34	
23 73 13 00-0040	EA	37,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	74,705.17	9,737.38
		For Flat Filter Box And Throwaway Filters, Add	6,775.32	
		For Medium Capacity Filter Box And Throwaway Filters, Add	13,133.52	
		For Combination Filter Mixing Box And Throwaway Filters, Add	22,670.83	
		For Manual Roll Filter, Add	33,007.04	
		For Automatic Roll Filter, Add	34,831.08	
		For Hot Water Heating Coil, Aluminum Fins, Add	13,550.64	
		For Electric Heating Coil, Add	14,766.67	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	25,710.89	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	22,670.83	
		For Steam Heating Coil, Aluminum Fins, Add	19,630.77	
		For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	15,895.51	
		For Chilled Water Cooling Coil, Copper Fins, Add	31,791.01	
		For Direct Expansion Cooling Coil, Copper Fins, Add	28,750.95	
		For Hot Water Heating Coil, Copper Fins, Add	22,670.83	
		For Variable Air Volume, Add	8,512.17	
		For Economizer, Panel, Controls And Damper(s), Add	3,850.59	
		For 2 Coils, Independent Circuits, Add	8,686.54	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
Central HVAC Equipment		23 70	
Indoor Central-Station Air-Handling Units		23 73	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0041	EA	40,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	80,578.15 7,311.28 14,174.64 24,469.68 35,629.74 37,599.16 14,622.56 15,935.51 27,752.05 24,469.68 21,187.30 17,158.40 34,316.79 31,034.42 24,469.68 9,190.64 3,696.34 9,370.76	10,416.62
23 73 13 00-0042	EA	45,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	86,971.51 7,893.76 15,305.49 26,423.08 38,476.71 40,603.82 15,787.52 17,205.60 29,968.26 26,423.08 22,877.89 18,529.32 37,058.64 33,513.45 26,423.08 9,926.52 3,838.48 10,115.23	11,247.04
23 73 13 00-0043	EA	47,500 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	90,601.93 8,220.67 15,937.62 27,513.05 40,061.00 42,275.34 16,441.34 17,917.57 31,203.63 27,513.05 23,822.48 19,292.38 38,584.77 34,894.20 27,513.05 10,333.60 3,928.81 10,536.42	11,775.31
23 73 13 00-0044	EA	50,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan For Flat Filter Box And Throwaway Filters, Add For Medium Capacity Filter Box And Throwaway Filters, Add For Combination Filter Mixing Box And Throwaway Filters, Add For Manual Roll Filter, Add For Automatic Roll Filter, Add For Hot Water Heating Coil, Aluminum Fins, Add For Electric Heating Coil, Add For Chilled Water Cooling Coil, Aluminum Fins, Add For Direct Expansion Cooling Coil, Aluminum Fins, Add For Steam Heating Coil, Aluminum Fins, Add For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add For Chilled Water Cooling Coil, Copper Fins, Add For Direct Expansion Cooling Coil, Copper Fins, Add For Hot Water Heating Coil, Copper Fins, Add For Variable Air Volume, Add For Economizer, Panel, Controls And Damper(s), Add For 2 Coils, Independent Circuits, Add	94,025.00 8,529.75 16,535.86 28,545.01 41,561.92 43,859.02 17,059.51 18,590.91 32,373.52 28,545.01 24,716.51 20,015.26 40,030.52 36,202.02 28,545.01 10,719.81 4,011.87 10,933.90	12,228.20

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0045 EA 55,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	101,384.33	13,058.52
For Flat Filter Box And Throwaway Filters, Add	9,205.27	
For Medium Capacity Filter Box And Throwaway Filters, Add	17,850.63	
For Combination Filter Mixing Box And Throwaway Filters, Add	30,818.68	
For Manual Roll Filter, Add	44,881.25	
For Automatic Roll Filter, Add	47,362.88	
For Hot Water Heating Coil, Aluminum Fins, Add	18,410.53	
For Electric Heating Coil, Add	20,064.95	
For Chilled Water Cooling Coil, Aluminum Fins, Add	34,954.73	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	30,818.68	
For Steam Heating Coil, Aluminum Fins, Add	26,682.63	
For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	21,613.42	
For Chilled Water Cooling Coil, Copper Fins, Add	43,226.83	
For Direct Expansion Cooling Coil, Copper Fins, Add	39,090.78	
For Hot Water Heating Coil, Copper Fins, Add	30,818.68	
For Variable Air Volume, Add	11,580.94	
For Economizer, Panel, Controls And Damper(s), Add	4,162.92	
For 2 Coils, Independent Circuits, Add	11,792.85	
23 73 13 00-0046 EA 60,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	110,928.52	13,964.32
For Flat Filter Box And Throwaway Filters, Add	10,094.40	
For Medium Capacity Filter Box And Throwaway Filters, Add	19,589.74	
For Combination Filter Mixing Box And Throwaway Filters, Add	33,832.74	
For Manual Roll Filter, Add	49,295.86	
For Automatic Roll Filter, Add	52,024.65	
For Hot Water Heating Coil, Aluminum Fins, Add	20,188.81	
For Electric Heating Coil, Add	22,008.00	
For Chilled Water Cooling Coil, Aluminum Fins, Add	38,380.72	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	33,832.74	
For Steam Heating Coil, Aluminum Fins, Add	29,284.76	
For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	23,738.34	
For Chilled Water Cooling Coil, Copper Fins, Add	47,476.67	
For Direct Expansion Cooling Coil, Copper Fins, Add	42,928.69	
For Hot Water Heating Coil, Copper Fins, Add	33,832.74	
For Variable Air Volume, Add	12,734.34	
For Economizer, Panel, Controls And Damper(s), Add	3,896.90	
For 2 Coils, Independent Circuits, Add	12,912.04	
23 73 13 00-0047 EA 65,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	121,622.01	15,096.55
For Flat Filter Box And Throwaway Filters, Add	11,083.88	
For Medium Capacity Filter Box And Throwaway Filters, Add	21,520.76	
For Combination Filter Mixing Box And Throwaway Filters, Add	37,176.08	
For Manual Roll Filter, Add	54,185.51	
For Automatic Roll Filter, Add	57,187.18	
For Hot Water Heating Coil, Aluminum Fins, Add	22,167.75	
For Electric Heating Coil, Add	24,168.86	
For Chilled Water Cooling Coil, Aluminum Fins, Add	42,178.85	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	37,176.08	
For Steam Heating Coil, Aluminum Fins, Add	32,173.30	
For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	26,092.20	
For Chilled Water Cooling Coil, Copper Fins, Add	52,184.40	
For Direct Expansion Cooling Coil, Copper Fins, Add	47,181.63	
For Hot Water Heating Coil, Copper Fins, Add	37,176.08	
For Variable Air Volume, Add	14,007.77	
For Economizer, Panel, Controls And Damper(s), Add	4,056.65	
For 2 Coils, Independent Circuits, Add	14,163.31	
23 73 13 00-0048 EA 70,000 CFM Single Zone Air Handling Unit, Built-Up, Constant Volume, Horizontal / Vertical, Draw-Through Fan	133,525.23	16,379.76
For Flat Filter Box And Throwaway Filters, Add	12,180.43	
For Medium Capacity Filter Box And Throwaway Filters, Add	23,657.61	
For Combination Filter Mixing Box And Throwaway Filters, Add	40,873.38	
For Manual Roll Filter, Add	59,587.56	
For Automatic Roll Filter, Add	62,890.06	
For Hot Water Heating Coil, Aluminum Fins, Add	24,360.87	
For Electric Heating Coil, Add	26,562.53	
For Chilled Water Cooling Coil, Aluminum Fins, Add	46,377.55	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	40,873.38	
For Steam Heating Coil, Aluminum Fins, Add	35,369.21	
For Welded Exterior Waterproof Casing, Double Wall, With Insulation, Add	28,692.95	
For Chilled Water Cooling Coil, Copper Fins, Add	57,385.89	
For Direct Expansion Cooling Coil, Copper Fins, Add	51,881.72	
For Hot Water Heating Coil, Copper Fins, Add	40,873.38	
For Variable Air Volume, Add	15,411.68	
For Economizer, Panel, Controls And Damper(s), Add	4,244.18	
For 2 Coils, Independent Circuits, Add	15,554.19	
23 73 13 00-0049 Multi-Zone Units (23 73 13)		
Note: Horizontal/vertical blow-thru fan, motor and cabinet.		



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0050	EA		1,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	7,904.87	1,358.47
			For Economizer, Panel, Controls And Damper(s), Add	1,998.22	
			For Flat Filter Box And Throwaway Filters, Add	693.47	
			For Medium Capacity Filter Box And Throwaway Filters, Add	1,328.73	
			For Combination Filter Mixing Box And Throwaway Filters, Add	1,685.17	
			For Manual Roll Filter, Add	3,474.54	
			For Automatic Roll Filter, Add	3,474.54	
			For Hot Water Heating Coil, Aluminum Fins, Add	790.49	
			For Electric Heating Coil, Add	909.78	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	2,878.08	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	2,878.08	
			For Chilled Water Cooling Coil, Copper Fins, Add	3,474.54	
			For Direct Expansion Cooling Coil, Copper Fins, Add	3,474.54	
			For 2 Coils, Independent Circuits, Add	909.78	
23 73 13 00-0051	EA		1,200 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	9,849.81	1,701.92
			For Economizer, Panel, Controls And Damper(s), Add	2,341.97	
			For Flat Filter Box And Throwaway Filters, Add	863.41	
			For Medium Capacity Filter Box And Throwaway Filters, Add	1,653.88	
			For Combination Filter Mixing Box And Throwaway Filters, Add	2,097.74	
			For Manual Roll Filter, Add	4,323.27	
			For Automatic Roll Filter, Add	4,323.27	
			For Hot Water Heating Coil, Aluminum Fins, Add	984.98	
			For Electric Heating Coil, Add	1,133.35	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	3,581.43	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	3,581.43	
			For Chilled Water Cooling Coil, Copper Fins, Add	4,323.27	
			For Direct Expansion Cooling Coil, Copper Fins, Add	4,323.27	
			For 2 Coils, Independent Circuits, Add	1,133.35	
23 73 13 00-0052	EA		1,600 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	12,205.31	1,811.37
			For Economizer, Panel, Controls And Damper(s), Add	2,451.22	
			For Flat Filter Box And Throwaway Filters, Add	1,091.16	
			For Medium Capacity Filter Box And Throwaway Filters, Add	2,104.69	
			For Combination Filter Mixing Box And Throwaway Filters, Add	2,663.21	
			For Manual Roll Filter, Add	5,548.56	
			For Automatic Roll Filter, Add	5,548.56	
			For Hot Water Heating Coil, Aluminum Fins, Add	1,220.53	
			For Electric Heating Coil, Add	1,412.89	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	4,586.78	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	4,586.78	
			For Chilled Water Cooling Coil, Copper Fins, Add	5,548.56	
			For Direct Expansion Cooling Coil, Copper Fins, Add	5,548.56	
			For 2 Coils, Independent Circuits, Add	1,412.89	
23 73 13 00-0053	EA		2,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	12,686.35	1,939.70
			For Economizer, Panel, Controls And Damper(s), Add	2,579.19	
			For Flat Filter Box And Throwaway Filters, Add	1,130.12	
			For Medium Capacity Filter Box And Throwaway Filters, Add	2,177.13	
			For Combination Filter Mixing Box And Throwaway Filters, Add	2,756.05	
			For Manual Roll Filter, Add	5,730.87	
			For Automatic Roll Filter, Add	5,730.87	
			For Hot Water Heating Coil, Aluminum Fins, Add	1,268.64	
			For Electric Heating Coil, Add	1,466.96	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	4,739.26	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	4,739.26	
			For Chilled Water Cooling Coil, Copper Fins, Add	5,730.87	
			For Direct Expansion Cooling Coil, Copper Fins, Add	5,730.87	
			For 2 Coils, Independent Circuits, Add	1,466.96	
23 73 13 00-0054	EA		2,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	14,862.43	2,079.33
			For Economizer, Panel, Controls And Damper(s), Add	2,719.41	
			For Flat Filter Box And Throwaway Filters, Add	1,337.71	
			For Medium Capacity Filter Box And Throwaway Filters, Add	2,586.31	
			For Combination Filter Mixing Box And Throwaway Filters, Add	3,270.02	
			For Manual Roll Filter, Add	6,837.57	
			For Automatic Roll Filter, Add	6,837.57	
			For Hot Water Heating Coil, Aluminum Fins, Add	1,486.24	
			For Electric Heating Coil, Add	1,724.08	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	5,648.39	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	5,648.39	
			For Chilled Water Cooling Coil, Copper Fins, Add	6,837.57	
			For Direct Expansion Cooling Coil, Copper Fins, Add	6,837.57	
			For 2 Coils, Independent Circuits, Add	1,724.08	
23 73 13 00-0055	EA		3,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	15,669.20	2,226.74
			For Economizer, Panel, Controls And Damper(s), Add	2,866.63	
			For Flat Filter Box And Throwaway Filters, Add	1,407.88	
			For Medium Capacity Filter Box And Throwaway Filters, Add	2,720.32	
			For Combination Filter Mixing Box And Throwaway Filters, Add	3,440.17	
			For Manual Roll Filter, Add	7,186.66	
			For Automatic Roll Filter, Add	7,186.66	
			For Hot Water Heating Coil, Aluminum Fins, Add	1,566.92	
			For Electric Heating Coil, Add	1,816.69	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	5,937.83	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	5,937.83	
			For Chilled Water Cooling Coil, Copper Fins, Add	7,186.66	
			For Direct Expansion Cooling Coil, Copper Fins, Add	7,186.66	
			For 2 Coils, Independent Circuits, Add	1,816.69	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0056	EA	3,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	16,518.33	2,377.60
		For Economizer, Panel, Controls And Damper(s), Add	3,017.41	
		For Flat Filter Box And Throwaway Filters, Add	1,482.02	
		For Medium Capacity Filter Box And Throwaway Filters, Add	2,862.15	
		For Combination Filter Mixing Box And Throwaway Filters, Add	3,620.14	
		For Manual Roll Filter, Add	7,556.75	
		For Automatic Roll Filter, Add	7,556.75	
		For Hot Water Heating Coil, Aluminum Fins, Add	1,651.83	
		For Electric Heating Coil, Add	1,914.27	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	6,244.54	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	6,244.54	
		For Chilled Water Cooling Coil, Copper Fins, Add	7,556.75	
		For Direct Expansion Cooling Coil, Copper Fins, Add	7,556.75	
		For 2 Coils, Independent Circuits, Add	1,914.27	
23 73 13 00-0057	EA	4,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	18,436.42	2,551.32
		For Economizer, Panel, Controls And Damper(s), Add	2,750.27	
		For Flat Filter Box And Throwaway Filters, Add	1,661.80	
		For Medium Capacity Filter Box And Throwaway Filters, Add	3,214.49	
		For Combination Filter Mixing Box And Throwaway Filters, Add	4,063.58	
		For Manual Roll Filter, Add	8,503.45	
		For Automatic Roll Filter, Add	8,503.45	
		For Hot Water Heating Coil, Aluminum Fins, Add	1,843.64	
		For Electric Heating Coil, Add	2,139.63	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	7,023.49	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	7,023.49	
		For Chilled Water Cooling Coil, Copper Fins, Add	8,503.45	
		For Direct Expansion Cooling Coil, Copper Fins, Add	8,503.45	
		For 2 Coils, Independent Circuits, Add	2,139.63	
23 73 13 00-0058	EA	4,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	20,156.87	2,732.26
		For Economizer, Panel, Controls And Damper(s), Add	2,896.89	
		For Flat Filter Box And Throwaway Filters, Add	1,820.52	
		For Medium Capacity Filter Box And Throwaway Filters, Add	3,523.93	
		For Combination Filter Mixing Box And Throwaway Filters, Add	4,453.70	
		For Manual Roll Filter, Add	9,329.73	
		For Automatic Roll Filter, Add	9,329.73	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,015.69	
		For Electric Heating Coil, Add	2,340.76	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	7,704.39	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	7,704.39	
		For Chilled Water Cooling Coil, Copper Fins, Add	9,329.73	
		For Direct Expansion Cooling Coil, Copper Fins, Add	9,329.73	
		For 2 Coils, Independent Circuits, Add	2,340.76	
23 73 13 00-0059	EA	5,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	21,307.51	2,918.16
		For Economizer, Panel, Controls And Damper(s), Add	3,037.67	
		For Flat Filter Box And Throwaway Filters, Add	1,922.78	
		For Medium Capacity Filter Box And Throwaway Filters, Add	3,720.78	
		For Combination Filter Mixing Box And Throwaway Filters, Add	4,702.97	
		For Manual Roll Filter, Add	9,847.40	
		For Automatic Roll Filter, Add	9,847.40	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,130.75	
		For Electric Heating Coil, Add	2,473.71	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	8,132.59	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	8,132.59	
		For Chilled Water Cooling Coil, Copper Fins, Add	9,847.40	
		For Direct Expansion Cooling Coil, Copper Fins, Add	9,847.40	
		For 2 Coils, Independent Circuits, Add	2,473.71	
23 73 13 00-0060	EA	5,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	23,505.21	3,117.66
		For Economizer, Panel, Controls And Damper(s), Add	3,200.74	
		For Flat Filter Box And Throwaway Filters, Add	2,127.73	
		For Medium Capacity Filter Box And Throwaway Filters, Add	4,121.78	
		For Combination Filter Mixing Box And Throwaway Filters, Add	5,207.92	
		For Manual Roll Filter, Add	10,922.72	
		For Automatic Roll Filter, Add	10,922.72	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,350.52	
		For Electric Heating Coil, Add	2,731.51	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	9,017.78	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	9,017.78	
		For Chilled Water Cooling Coil, Copper Fins, Add	10,922.72	
		For Direct Expansion Cooling Coil, Copper Fins, Add	10,922.72	
		For 2 Coils, Independent Circuits, Add	2,731.51	
23 73 13 00-0061	EA	6,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	25,008.31	3,336.56
		For Economizer, Panel, Controls And Damper(s), Add	3,371.34	
		For Flat Filter Box And Throwaway Filters, Add	2,262.53	
		For Medium Capacity Filter Box And Throwaway Filters, Add	4,382.07	
		For Combination Filter Mixing Box And Throwaway Filters, Add	5,537.17	
		For Manual Roll Filter, Add	11,609.83	
		For Automatic Roll Filter, Add	11,609.83	
		For Hot Water Heating Coil, Aluminum Fins, Add	2,500.83	
		For Electric Heating Coil, Add	2,905.68	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	9,585.61	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	9,585.61	
		For Chilled Water Cooling Coil, Copper Fins, Add	11,609.83	
		For Direct Expansion Cooling Coil, Copper Fins, Add	11,609.83	
		For 2 Coils, Independent Circuits, Add	2,905.68	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Indoor Central-Station Air-Handling Units			23 73

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0062	EA		6,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	27,427.09	3,623.17
			For Economizer, Panel, Controls And Damper(s), Add	3,594.50	
			For Flat Filter Box And Throwaway Filters, Add	2,484.12	
			For Medium Capacity Filter Box And Throwaway Filters, Add	4,813.08	
			For Combination Filter Mixing Box And Throwaway Filters, Add	6,081.00	
			For Manual Roll Filter, Add	12,757.58	
			For Automatic Roll Filter, Add	12,757.58	
			For Hot Water Heating Coil, Aluminum Fins, Add	2,742.71	
			For Electric Heating Coil, Add	3,187.81	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	10,532.05	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	10,532.05	
			For Chilled Water Cooling Coil, Copper Fins, Add	12,757.58	
			For Direct Expansion Cooling Coil, Copper Fins, Add	12,757.58	
			For 2 Coils, Independent Circuits, Add	3,187.81	
23 73 13 00-0063	EA		7,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	29,468.26	3,902.57
			For Economizer, Panel, Controls And Damper(s), Add	3,815.01	
			For Flat Filter Box And Throwaway Filters, Add	2,668.19	
			For Medium Capacity Filter Box And Throwaway Filters, Add	5,169.20	
			For Combination Filter Mixing Box And Throwaway Filters, Add	6,531.15	
			For Manual Roll Filter, Add	13,699.81	
			For Automatic Roll Filter, Add	13,699.81	
			For Hot Water Heating Coil, Aluminum Fins, Add	2,946.83	
			For Electric Heating Coil, Add	3,424.74	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	11,310.26	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	11,310.26	
			For Chilled Water Cooling Coil, Copper Fins, Add	13,699.81	
			For Direct Expansion Cooling Coil, Copper Fins, Add	13,699.81	
			For 2 Coils, Independent Circuits, Add	3,424.74	
23 73 13 00-0064	EA		7,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	30,917.80	4,219.49
			For Economizer, Panel, Controls And Damper(s), Add	3,346.30	
			For Flat Filter Box And Throwaway Filters, Add	2,790.99	
			For Medium Capacity Filter Box And Throwaway Filters, Add	5,401.51	
			For Combination Filter Mixing Box And Throwaway Filters, Add	6,827.09	
			For Manual Roll Filter, Add	14,297.70	
			For Automatic Roll Filter, Add	14,297.70	
			For Hot Water Heating Coil, Aluminum Fins, Add	3,091.78	
			For Electric Heating Coil, Add	3,589.82	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	11,807.49	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	11,807.49	
			For Chilled Water Cooling Coil, Copper Fins, Add	14,297.70	
			For Direct Expansion Cooling Coil, Copper Fins, Add	14,297.70	
			For 2 Coils, Independent Circuits, Add	3,589.82	
23 73 13 00-0065	EA		8,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	34,315.49	4,551.40
			For Economizer, Panel, Controls And Damper(s), Add	3,542.29	
			For Flat Filter Box And Throwaway Filters, Add	3,106.26	
			For Medium Capacity Filter Box And Throwaway Filters, Add	6,017.35	
			For Combination Filter Mixing Box And Throwaway Filters, Add	7,603.01	
			For Manual Roll Filter, Add	15,945.94	
			For Automatic Roll Filter, Add	15,945.94	
			For Hot Water Heating Coil, Aluminum Fins, Add	3,431.55	
			For Electric Heating Coil, Add	3,987.74	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	13,164.97	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	13,164.97	
			For Chilled Water Cooling Coil, Copper Fins, Add	15,945.94	
			For Direct Expansion Cooling Coil, Copper Fins, Add	15,945.94	
			For 2 Coils, Independent Circuits, Add	3,987.74	
23 73 13 00-0066	EA		8,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	36,128.01	4,906.16
			For Economizer, Panel, Controls And Damper(s), Add	3,745.40	
			For Flat Filter Box And Throwaway Filters, Add	3,262.13	
			For Medium Capacity Filter Box And Throwaway Filters, Add	6,313.85	
			For Combination Filter Mixing Box And Throwaway Filters, Add	7,979.98	
			For Manual Roll Filter, Add	16,714.33	
			For Automatic Roll Filter, Add	16,714.33	
			For Hot Water Heating Coil, Aluminum Fins, Add	3,612.80	
			For Electric Heating Coil, Add	4,195.09	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	13,802.88	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	13,802.88	
			For Chilled Water Cooling Coil, Copper Fins, Add	16,714.33	
			For Direct Expansion Cooling Coil, Copper Fins, Add	16,714.33	
			For 2 Coils, Independent Circuits, Add	4,195.09	
23 73 13 00-0067	EA		9,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	38,135.56	5,313.99
			For Economizer, Panel, Controls And Damper(s), Add	3,966.88	
			For Flat Filter Box And Throwaway Filters, Add	3,435.20	
			For Medium Capacity Filter Box And Throwaway Filters, Add	6,643.38	
			For Combination Filter Mixing Box And Throwaway Filters, Add	8,398.81	
			For Manual Roll Filter, Add	17,569.32	
			For Automatic Roll Filter, Add	17,569.32	
			For Hot Water Heating Coil, Aluminum Fins, Add	3,813.56	
			For Electric Heating Coil, Add	4,424.92	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	14,512.49	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	14,512.49	
			For Chilled Water Cooling Coil, Copper Fins, Add	17,569.32	
			For Direct Expansion Cooling Coil, Copper Fins, Add	17,569.32	
			For 2 Coils, Independent Circuits, Add	4,424.92	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0068	EA	10,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	40,296.99	5,736.36
		For Economizer, Panel, Controls And Damper(s), Add	3,640.06	
		For Flat Filter Box And Throwaway Filters, Add	3,619.69	
		For Medium Capacity Filter Box And Throwaway Filters, Add	6,993.37	
		For Combination Filter Mixing Box And Throwaway Filters, Add	8,844.22	
		For Manual Roll Filter, Add	18,473.25	
		For Automatic Roll Filter, Add	18,473.25	
		For Hot Water Heating Coil, Aluminum Fins, Add	4,029.70	
		For Electric Heating Coil, Add	4,671.63	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	15,263.58	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	15,263.58	
		For Chilled Water Cooling Coil, Copper Fins, Add	18,473.25	
		For Direct Expansion Cooling Coil, Copper Fins, Add	18,473.25	
		For 2 Coils, Independent Circuits, Add	4,671.63	
23 73 13 00-0069	EA	11,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	41,426.33	5,955.59
		For Economizer, Panel, Controls And Damper(s), Add	3,738.42	
		For Flat Filter Box And Throwaway Filters, Add	3,716.23	
		For Medium Capacity Filter Box And Throwaway Filters, Add	7,176.62	
		For Combination Filter Mixing Box And Throwaway Filters, Add	9,077.38	
		For Manual Roll Filter, Add	18,946.86	
		For Automatic Roll Filter, Add	18,946.86	
		For Hot Water Heating Coil, Aluminum Fins, Add	4,142.63	
		For Electric Heating Coil, Add	4,800.60	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	15,657.03	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	15,657.03	
		For Chilled Water Cooling Coil, Copper Fins, Add	18,946.86	
		For Direct Expansion Cooling Coil, Copper Fins, Add	18,946.86	
		For 2 Coils, Independent Circuits, Add	4,800.60	
23 73 13 00-0070	EA	12,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	42,506.42	6,168.13
		For Economizer, Panel, Controls And Damper(s), Add	3,822.00	
		For Flat Filter Box And Throwaway Filters, Add	3,810.31	
		For Medium Capacity Filter Box And Throwaway Filters, Add	7,356.42	
		For Combination Filter Mixing Box And Throwaway Filters, Add	9,305.61	
		For Manual Roll Filter, Add	19,415.54	
		For Automatic Roll Filter, Add	19,415.54	
		For Hot Water Heating Coil, Aluminum Fins, Add	4,250.64	
		For Electric Heating Coil, Add	4,924.64	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	16,045.56	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	16,045.56	
		For Chilled Water Cooling Coil, Copper Fins, Add	19,415.54	
		For Direct Expansion Cooling Coil, Copper Fins, Add	19,415.54	
		For 2 Coils, Independent Circuits, Add	4,924.64	
23 73 13 00-0071	EA	13,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	48,109.03	6,416.04
		For Economizer, Panel, Controls And Damper(s), Add	3,238.05	
		For Flat Filter Box And Throwaway Filters, Add	4,351.39	
		For Medium Capacity Filter Box And Throwaway Filters, Add	8,427.07	
		For Combination Filter Mixing Box And Throwaway Filters, Add	10,648.72	
		For Manual Roll Filter, Add	22,324.35	
		For Automatic Roll Filter, Add	22,324.35	
		For Hot Water Heating Coil, Aluminum Fins, Add	4,810.90	
		For Electric Heating Coil, Add	5,589.28	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	18,432.47	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	18,432.47	
		For Chilled Water Cooling Coil, Copper Fins, Add	22,324.35	
		For Direct Expansion Cooling Coil, Copper Fins, Add	22,324.35	
		For 2 Coils, Independent Circuits, Add	5,589.28	
23 73 13 00-0072	EA	15,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	53,671.07	6,670.19
		For Economizer, Panel, Controls And Damper(s), Add	3,403.33	
		For Flat Filter Box And Throwaway Filters, Add	4,890.44	
		For Medium Capacity Filter Box And Throwaway Filters, Add	9,949.88	
		For Combination Filter Mixing Box And Throwaway Filters, Add	11,987.77	
		For Manual Roll Filter, Add	25,229.09	
		For Automatic Roll Filter, Add	25,229.09	
		For Hot Water Heating Coil, Aluminum Fins, Add	5,367.11	
		For Electric Heating Coil, Add	6,249.86	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	20,815.32	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	20,815.32	
		For Chilled Water Cooling Coil, Copper Fins, Add	25,229.09	
		For Direct Expansion Cooling Coil, Copper Fins, Add	25,229.09	
		For 2 Coils, Independent Circuits, Add	6,249.86	
23 73 13 00-0073	EA	16,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	61,793.14	6,921.77
		For Economizer, Panel, Controls And Damper(s), Add	3,464.49	
		For Flat Filter Box And Throwaway Filters, Add	5,685.17	
		For Medium Capacity Filter Box And Throwaway Filters, Add	11,073.86	
		For Combination Filter Mixing Box And Throwaway Filters, Add	13,965.86	
		For Manual Roll Filter, Add	29,538.96	
		For Automatic Roll Filter, Add	29,538.96	
		For Hot Water Heating Coil, Aluminum Fins, Add	6,179.31	
		For Electric Heating Coil, Add	7,217.52	
		For Chilled Water Cooling Coil, Aluminum Fins, Add	24,347.93	
		For Direct Expansion Cooling Coil, Aluminum Fins, Add	24,347.93	
		For Chilled Water Cooling Coil, Copper Fins, Add	29,538.96	
		For Direct Expansion Cooling Coil, Copper Fins, Add	29,538.96	
		For 2 Coils, Independent Circuits, Add	7,217.52	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Indoor Central-Station Air-Handling Units			23 73	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0074	EA		17,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	69,920.14	7,170.86
			For Economizer, Panel, Controls And Damper(s), Add	3,526.52	
			For Flat Filter Box And Throwaway Filters, Add	6,480.15	
			For Medium Capacity Filter Box And Throwaway Filters, Add	12,653.18	
			For Combination Filter Mixing Box And Throwaway Filters, Add	15,944.45	
			For Manual Roll Filter, Add	33,849.31	
			For Automatic Roll Filter, Add	33,849.31	
			For Hot Water Heating Coil, Aluminum Fins, Add	6,992.01	
			For Electric Heating Coil, Add	8,185.67	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	27,881.02	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	27,881.02	
			For Chilled Water Cooling Coil, Copper Fins, Add	33,849.31	
			For Direct Expansion Cooling Coil, Copper Fins, Add	33,849.31	
			For 2 Coils, Independent Circuits, Add	8,185.67	
23 73 13 00-0075	EA		20,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	78,540.87	7,774.72
			For Economizer, Panel, Controls And Damper(s), Add	3,678.21	
			For Flat Filter Box And Throwaway Filters, Add	7,298.88	
			For Medium Capacity Filter Box And Throwaway Filters, Add	10,892.81	
			For Combination Filter Mixing Box And Throwaway Filters, Add	17,969.61	
			For Manual Roll Filter, Add	28,085.13	
			For Automatic Roll Filter, Add	34,828.81	
			For Hot Water Heating Coil, Aluminum Fins, Add	7,654.09	
			For Electric Heating Coil, Add	9,202.82	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	28,085.13	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	28,085.13	
			For Steam Heating Coil, Aluminum Fins, Add	14,597.77	
			For Chilled Water Cooling Coil, Copper Fins, Add	34,828.81	
			For Direct Expansion Cooling Coil, Copper Fins, Add	34,828.81	
			For 2 Coils, Independent Circuits, Add	9,202.82	
23 73 13 00-0076	EA		22,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	84,704.11	8,454.07
			For Economizer, Panel, Controls And Damper(s), Add	3,566.65	
			For Flat Filter Box And Throwaway Filters, Add	7,869.86	
			For Medium Capacity Filter Box And Throwaway Filters, Add	11,744.73	
			For Combination Filter Mixing Box And Throwaway Filters, Add	19,374.37	
			For Manual Roll Filter, Add	30,278.34	
			For Automatic Roll Filter, Add	37,547.64	
			For Hot Water Heating Coil, Aluminum Fins, Add	8,470.41	
			For Electric Heating Coil, Add	9,924.27	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	30,278.34	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	30,278.34	
			For Steam Heating Coil, Aluminum Fins, Add	15,739.72	
			For Chilled Water Cooling Coil, Copper Fins, Add	37,547.64	
			For Direct Expansion Cooling Coil, Copper Fins, Add	37,547.64	
			For 2 Coils, Independent Circuits, Add	9,924.27	
23 73 13 00-0077	EA		25,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	101,170.66	9,133.09
			For Economizer, Panel, Controls And Damper(s), Add	3,721.64	
			For Flat Filter Box And Throwaway Filters, Add	9,464.85	
			For Medium Capacity Filter Box And Throwaway Filters, Add	14,132.06	
			For Combination Filter Mixing Box And Throwaway Filters, Add	23,336.02	
			For Manual Roll Filter, Add	36,554.98	
			For Automatic Roll Filter, Add	45,367.62	
			For Hot Water Heating Coil, Aluminum Fins, Add	10,117.07	
			For Electric Heating Coil, Add	11,879.59	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	36,554.98	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	36,554.98	
			For Steam Heating Coil, Aluminum Fins, Add	18,929.70	
			For Chilled Water Cooling Coil, Copper Fins, Add	45,367.62	
			For Direct Expansion Cooling Coil, Copper Fins, Add	45,367.62	
			For 2 Coils, Independent Circuits, Add	11,879.59	
23 73 13 00-0078	EA		27,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	114,422.45	9,888.24
			For Economizer, Panel, Controls And Damper(s), Add	3,880.90	
			For Flat Filter Box And Throwaway Filters, Add	10,736.95	
			For Medium Capacity Filter Box And Throwaway Filters, Add	16,034.89	
			For Combination Filter Mixing Box And Throwaway Filters, Add	26,489.71	
			For Manual Roll Filter, Add	41,537.18	
			For Automatic Roll Filter, Add	51,568.83	
			For Hot Water Heating Coil, Aluminum Fins, Add	11,442.25	
			For Electric Heating Coil, Add	13,448.57	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	41,537.18	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	41,537.18	
			For Steam Heating Coil, Aluminum Fins, Add	21,473.89	
			For Chilled Water Cooling Coil, Copper Fins, Add	51,568.83	
			For Direct Expansion Cooling Coil, Copper Fins, Add	51,568.83	
			For 2 Coils, Independent Circuits, Add	13,448.57	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0079 EA 30,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	124,027.45	10,643.40
For Economizer, Panel, Controls And Damper(s), Add	4,046.73	
For Flat Filter Box And Throwaway Filters, Add	11,642.17	
For Medium Capacity Filter Box And Throwaway Filters, Add	17,387.20	
For Combination Filter Mixing Box And Throwaway Filters, Add	28,725.14	
For Manual Roll Filter, Add	45,047.53	
For Automatic Roll Filter, Add	55,929.13	
For Hot Water Heating Coil, Aluminum Fins, Add	12,402.75	
For Electric Heating Coil, Add	14,579.06	
For Chilled Water Cooling Coil, Aluminum Fins, Add	45,047.53	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	45,047.53	
For Steam Heating Coil, Aluminum Fins, Add	23,284.34	
For Chilled Water Cooling Coil, Copper Fins, Add	55,929.13	
For Direct Expansion Cooling Coil, Copper Fins, Add	55,929.13	
For 2 Coils, Independent Circuits, Add	14,579.06	
23 73 13 00-0080 EA 32,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	138,556.92	12,454.34
For Economizer, Panel, Controls And Damper(s), Add	4,051.82	
For Flat Filter Box And Throwaway Filters, Add	12,966.96	
For Medium Capacity Filter Box And Throwaway Filters, Add	19,361.57	
For Combination Filter Mixing Box And Throwaway Filters, Add	31,973.04	
For Manual Roll Filter, Add	50,090.40	
For Automatic Roll Filter, Add	62,168.63	
For Hot Water Heating Coil, Aluminum Fins, Add	13,855.69	
For Electric Heating Coil, Add	16,271.34	
For Chilled Water Cooling Coil, Aluminum Fins, Add	50,090.40	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	50,090.40	
For Steam Heating Coil, Aluminum Fins, Add	25,933.93	
For Chilled Water Cooling Coil, Copper Fins, Add	62,168.63	
For Direct Expansion Cooling Coil, Copper Fins, Add	62,168.63	
For 2 Coils, Independent Circuits, Add	16,271.34	
23 73 13 00-0081 EA 35,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	139,221.72	12,907.55
For Economizer, Panel, Controls And Damper(s), Add	4,134.92	
For Flat Filter Box And Throwaway Filters, Add	13,000.20	
For Medium Capacity Filter Box And Throwaway Filters, Add	19,408.11	
For Combination Filter Mixing Box And Throwaway Filters, Add	32,039.52	
For Manual Roll Filter, Add	50,156.88	
For Automatic Roll Filter, Add	62,235.11	
For Hot Water Heating Coil, Aluminum Fins, Add	13,922.17	
For Electric Heating Coil, Add	16,337.82	
For Chilled Water Cooling Coil, Aluminum Fins, Add	50,156.88	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	50,156.88	
For Steam Heating Coil, Aluminum Fins, Add	26,000.41	
For Chilled Water Cooling Coil, Copper Fins, Add	62,235.11	
For Direct Expansion Cooling Coil, Copper Fins, Add	62,235.11	
For 2 Coils, Independent Circuits, Add	16,337.82	
23 73 13 00-0082 EA 37,500 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	145,627.39	13,360.02
For Economizer, Panel, Controls And Damper(s), Add	4,218.02	
For Flat Filter Box And Throwaway Filters, Add	13,607.53	
For Medium Capacity Filter Box And Throwaway Filters, Add	20,315.78	
For Combination Filter Mixing Box And Throwaway Filters, Add	33,541.23	
For Manual Roll Filter, Add	52,519.71	
For Automatic Roll Filter, Add	65,172.04	
For Hot Water Heating Coil, Aluminum Fins, Add	14,562.74	
For Electric Heating Coil, Add	17,093.20	
For Chilled Water Cooling Coil, Aluminum Fins, Add	52,519.71	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	52,519.71	
For Steam Heating Coil, Aluminum Fins, Add	27,215.06	
For Chilled Water Cooling Coil, Copper Fins, Add	65,172.04	
For Direct Expansion Cooling Coil, Copper Fins, Add	65,172.04	
For 2 Coils, Independent Circuits, Add	17,093.20	
23 73 13 00-0083 EA 40,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	152,328.56	14,341.72
For Economizer, Panel, Controls And Damper(s), Add	4,389.31	
For Flat Filter Box And Throwaway Filters, Add	14,209.13	
For Medium Capacity Filter Box And Throwaway Filters, Add	21,211.32	
For Combination Filter Mixing Box And Throwaway Filters, Add	35,010.97	
For Manual Roll Filter, Add	54,789.08	
For Automatic Roll Filter, Add	67,974.48	
For Hot Water Heating Coil, Aluminum Fins, Add	15,232.86	
For Electric Heating Coil, Add	17,869.94	
For Chilled Water Cooling Coil, Aluminum Fins, Add	54,789.08	
For Direct Expansion Cooling Coil, Aluminum Fins, Add	54,789.08	
For Steam Heating Coil, Aluminum Fins, Add	28,418.26	
For Chilled Water Cooling Coil, Copper Fins, Add	67,974.48	
For Direct Expansion Cooling Coil, Copper Fins, Add	67,974.48	
For 2 Coils, Independent Circuits, Add	17,869.94	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Indoor Central-Station Air-Handling Units			23 73

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0084	EA		45,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	164,210.46	15,096.55
			For Economizer, Panel, Controls And Damper(s), Add	4,513.88	
			For Flat Filter Box And Throwaway Filters, Add	15,347.49	
			For Medium Capacity Filter Box And Throwaway Filters, Add	22,913.88	
			For Combination Filter Mixing Box And Throwaway Filters, Add	37,831.95	
			For Manual Roll Filter, Add	59,242.86	
			For Automatic Roll Filter, Add	73,516.80	
			For Hot Water Heating Coil, Aluminum Fins, Add	16,421.05	
			For Electric Heating Coil, Add	19,275.83	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	59,242.86	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	59,242.86	
			For Steam Heating Coil, Aluminum Fins, Add	30,694.99	
			For Chilled Water Cooling Coil, Copper Fins, Add	73,516.80	
			For Direct Expansion Cooling Coil, Copper Fins, Add	73,516.80	
			For 2 Coils, Independent Circuits, Add	19,275.83	
23 73 13 00-0085	EA		50,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	176,555.39	15,926.86
			For Economizer, Panel, Controls And Damper(s), Add	4,178.16	
			For Flat Filter Box And Throwaway Filters, Add	16,516.46	
			For Medium Capacity Filter Box And Throwaway Filters, Add	24,660.78	
			For Combination Filter Mixing Box And Throwaway Filters, Add	40,721.61	
			For Manual Roll Filter, Add	63,787.69	
			For Automatic Roll Filter, Add	79,165.07	
			For Hot Water Heating Coil, Aluminum Fins, Add	17,655.54	
			For Electric Heating Coil, Add	20,731.02	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	63,787.69	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	63,787.69	
			For Steam Heating Coil, Aluminum Fins, Add	33,032.92	
			For Chilled Water Cooling Coil, Copper Fins, Add	79,165.07	
			For Direct Expansion Cooling Coil, Copper Fins, Add	79,165.07	
			For 2 Coils, Independent Circuits, Add	20,731.02	
23 73 13 00-0086	EA		55,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	190,217.38	16,908.14
			For Economizer, Panel, Controls And Damper(s), Add	4,314.17	
			For Flat Filter Box And Throwaway Filters, Add	17,814.66	
			For Medium Capacity Filter Box And Throwaway Filters, Add	26,601.28	
			For Combination Filter Mixing Box And Throwaway Filters, Add	43,933.10	
			For Manual Roll Filter, Add	68,844.46	
			For Automatic Roll Filter, Add	85,452.03	
			For Hot Water Heating Coil, Aluminum Fins, Add	19,021.74	
			For Electric Heating Coil, Add	22,343.25	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	68,844.46	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	68,844.46	
			For Steam Heating Coil, Aluminum Fins, Add	35,629.31	
			For Chilled Water Cooling Coil, Copper Fins, Add	85,452.03	
			For Direct Expansion Cooling Coil, Copper Fins, Add	85,452.03	
			For 2 Coils, Independent Circuits, Add	22,343.25	
23 73 13 00-0087	EA		60,000 CFM Multizone Air Handling Unit, Built-Up, Horizontal / Vertical, Draw-Through Fan	204,141.65	17,361.04
			For Economizer, Panel, Controls And Damper(s), Add	4,375.75	
			For Flat Filter Box And Throwaway Filters, Add	19,176.29	
			For Medium Capacity Filter Box And Throwaway Filters, Add	28,640.65	
			For Combination Filter Mixing Box And Throwaway Filters, Add	47,321.79	
			For Manual Roll Filter, Add	74,229.41	
			For Automatic Roll Filter, Add	92,167.83	
			For Hot Water Heating Coil, Aluminum Fins, Add	20,414.17	
			For Electric Heating Coil, Add	24,001.85	
			For Chilled Water Cooling Coil, Aluminum Fins, Add	74,229.41	
			For Direct Expansion Cooling Coil, Aluminum Fins, Add	74,229.41	
			For Steam Heating Coil, Aluminum Fins, Add	38,352.58	
			For Chilled Water Cooling Coil, Copper Fins, Add	92,167.83	
			For Direct Expansion Cooling Coil, Copper Fins, Add	92,167.83	
			For 2 Coils, Independent Circuits, Add	24,001.85	
23 73 13 00-0088			Return/Supply Air Fan (23 73 13)		
			Note: Includes vibration mounts.		
23 73 13 00-0089	EA		300 CFM Return Air Fan.....	3,342.73	603.75
23 73 13 00-0090	EA		500 CFM Return Air Fan.....	4,339.59	724.52
23 73 13 00-0091	EA		750 CFM Return Air Fan.....	4,533.06	754.72
23 73 13 00-0092	EA		1,000 CFM Return Air Fan.....	5,179.43	800.01
23 73 13 00-0093	EA		1,250 CFM Return Air Fan.....	5,335.96	837.75
23 73 13 00-0094	EA		1,500 CFM Return Air Fan.....	5,458.17	875.49
23 73 13 00-0095	EA		1,750 CFM Return Air Fan.....	5,728.25	920.78
23 73 13 00-0096	EA		2,000 CFM Return Air Fan.....	6,374.61	966.07
23 73 13 00-0097	EA		2,250 CFM Return Air Fan.....	6,678.79	1,011.37
23 73 13 00-0098	EA		2,500 CFM Return Air Fan.....	6,846.16	1,056.65
23 73 13 00-0099	EA		3,000 CFM Return Air Fan.....	7,247.06	1,169.87
23 73 13 00-0100	EA		3,500 CFM Return Air Fan.....	7,436.17	1,230.26
23 73 13 00-0101	EA		4,000 CFM Return Air Fan.....	7,614.24	1,283.09
23 73 13 00-0102	EA		4,500 CFM Return Air Fan.....	7,837.54	1,343.59
23 73 13 00-0103	EA		5,000 CFM Return Air Fan.....	8,037.10	1,411.52
23 73 13 00-0104	EA		5,500 CFM Return Air Fan.....	8,410.98	1,577.59
23 73 13 00-0105	EA		6,000 CFM Return Air Fan.....	9,549.87	1,871.98
23 73 13 00-0106	EA		6,500 CFM Return Air Fan.....	9,798.92	1,902.16
23 73 13 00-0107	EA		7,000 CFM Return Air Fan.....	9,911.86	1,909.71
23 73 13 00-0108	EA		8,000 CFM Return Air Fan.....	10,434.60	1,939.91
23 73 13 00-0109	EA		9,000 CFM Return Air Fan.....	10,668.65	1,962.55
23 73 13 00-0110	EA		10,000 CFM Return Air Fan.....	11,224.94	2,038.36

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 73 Indoor Central-Station Air-Handling Units**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 73 13 00-0111 EA 12,500 CFM Return Air Fan.....	11,961.14	2,075.67
23 73 13 00-0112 EA 15,000 CFM Return Air Fan.....	13,518.03	2,134.65
23 73 13 00-0113 EA 17,500 CFM Return Air Fan.....	14,742.13	2,249.28
23 73 13 00-0114 EA 20,000 CFM Return Air Fan.....	17,550.31	2,347.19
23 73 13 00-0115 EA 22,500 CFM Return Air Fan.....	18,393.10	2,429.03
23 73 13 00-0116 EA 25,000 CFM Return Air Fan.....	19,231.92	2,498.48
23 73 13 00-0117 EA 27,500 CFM Return Air Fan.....	20,378.74	2,747.58
23 73 13 00-0118 EA 30,000 CFM Return Air Fan.....	21,790.71	2,898.32
23 73 13 00-0119 EA 35,000 CFM Return Air Fan.....	24,598.67	3,018.98
23 73 13 00-0120 EA 40,000 CFM Return Air Fan.....	28,998.49	3,320.92
23 73 13 00-0121 EA 45,000 CFM Return Air Fan.....	35,699.81	3,773.82
23 73 13 00-0122 EA 50,000 CFM Return Air Fan.....	43,489.50	3,910.00
23 73 13 00-0123 EA 55,000 CFM Return Air Fan.....	45,527.17	4,022.90
23 73 13 00-0124 EA 60,000 CFM Return Air Fan.....	46,573.71	4,128.58
23 73 13 00-0125 EA 65,000 CFM Return Air Fan.....	48,844.50	4,309.64
23 73 13 00-0126 EA 70,000 CFM Return Air Fan.....	51,303.55	4,521.85
23 73 13 00-0127 EA 75,000 CFM Return Air Fan.....	55,186.06	4,743.66
23 73 13 00-0128 EA 80,000 CFM Return Air Fan.....	57,632.05	4,995.12
23 73 13 00-0129 EA 90,000 CFM Return Air Fan.....	59,502.50	5,279.58
23 73 13 00-0130 EA 100,000 CFM Return Air Fan.....	63,986.28	5,521.24
23 73 13 00-0131 EA 115,000 CFM Return Air Fan.....	68,845.17	5,785.33
23 73 13 00-0132 EA 130,000 CFM Return Air Fan.....	74,118.34	6,076.79
23 73 13 00-0133 EA 150,000 CFM Return Air Fan.....	81,111.72	6,400.51

23 73 13 00-0134 Removal And Reinstallation Of Air Handling Unit (23 73 13)

Note: Air handling units with filter and coils. Includes storage and cleaning. Excludes ductwork.

23 73 13 00-0135 EA Removal And Reinstallation Of Up To 11,500 CFM Air Handling Unit.....	2,764.93	
23 73 13 00-0136 EA Removal And Reinstallation Of >11,500 To 16,500 CFM Air Handling Unit.....	3,750.70	
23 73 13 00-0137 EA Removal And Reinstallation Of >16,500 To 22,000 CFM Air Handling Unit.....	4,665.82	
23 73 13 00-0138 EA Removal And Reinstallation Of >22,000 CFM Air Handling Unit.....	8,513.10	

23 74 Packaged Outdoor HVAC Equipment (23 74)**23 74 16 Packaged Rooftop Air-Conditioning Units (23 74)****23 74 16 13 Packaged, Large-Capacity, Rooftop Air-Conditioning Units (23 74 16)****23 74 16 13-0001 Electric Cooling, Electric Heat, Self Contained Packaged Rooftop Air-Conditioning Units (23 74 16 13)**

Note: Electric heating capacity is approximately 1/2 the cooling capacity. Units < 5 tons have 14 SEER, units 5 to < 20 tons have 11 EER, and units 20 tons and over have 10 EER. Includes roof curb and economizer. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.

23 74 16 13-0002 EA 2 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit.....	5,030.63	1,718.62
For Unit Without Heat, Deduct	-366.11	
For Unit Without Factory Installed Economizer, Deduct	-1,103.56	
For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0003 EA 3 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit.....	6,503.79	1,796.74
For Unit Without Heat, Deduct	-444.97	
For Unit Without Factory Installed Economizer, Deduct	-1,103.56	
For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0004 EA 4 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit.....	7,585.98	1,874.86
For Unit Without Heat, Deduct	-504.29	
For Unit Without Factory Installed Economizer, Deduct	-1,103.56	
For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0005 EA 5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit.....	9,013.75	1,992.04
For Unit Without Heat, Deduct	-583.49	
For Unit Without Factory Installed Economizer, Deduct	-1,103.56	
For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0006 EA 6 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit.....	9,814.17	2,109.21
For Unit Without Heat, Deduct	-631.32	
For Unit Without Factory Installed Economizer, Deduct	-1,103.56	
For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0007 EA 7.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit.....	10,988.74	2,265.45
For Unit Without Heat, Deduct	-700.47	
For Unit Without Factory Installed Economizer, Deduct	-1,126.35	
For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0008 EA 8.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit.....	11,789.15	2,382.63
For Unit Without Heat, Deduct	-748.30	
For Unit Without Factory Installed Economizer, Deduct	-1,126.35	
For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0009 EA 10 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit.....	12,963.72	2,538.87
For Unit Without Heat, Deduct	-817.44	
For Unit Without Factory Installed Economizer, Deduct	-1,151.88	
For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0010 EA 12.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit.....	15,673.80	2,743.54
For Unit Without Heat, Deduct	-966.62	
For Unit Without Factory Installed Economizer, Deduct	-1,244.02	
For Unit Without Roof Curb, Deduct	-880.37	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Packaged Outdoor HVAC Equipment			23 74

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0011	EA		15 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	18,383.87	2,949.00
			For Unit Without Heat, Deduct	-1,115.79	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0012	EA		17.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	21,009.91	3,153.93
			For Unit Without Heat, Deduct	-1,260.77	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0013	EA		20 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	23,635.96	3,359.13
			For Unit Without Heat, Deduct	-1,405.74	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0014	EA		22.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	26,500.31	3,700.76
			For Unit Without Heat, Deduct	-1,671.74	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0015	EA		25 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	29,364.64	4,042.67
			For Unit Without Heat, Deduct	-1,737.74	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0016	EA		27.5 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	32,337.08	4,423.63
			For Unit Without Heat, Deduct	-1,911.75	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-1,331.01	
23 74 16 13-0017	EA		30 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	35,309.51	4,804.33
			For Unit Without Heat, Deduct	-2,085.76	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-1,331.01	
23 74 16 13-0018	EA		35 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	41,138.42	5,605.05
			For Unit Without Heat, Deduct	-2,430.59	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-1,331.01	
23 74 16 13-0019	EA		40 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	46,967.32	6,405.77
			For Unit Without Heat, Deduct	-2,775.42	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-2,029.39	
23 74 16 13-0020	EA		45 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	51,645.95	7,226.02
			For Unit Without Heat, Deduct	-3,064.03	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-2,029.39	
23 74 16 13-0021	EA		50 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	56,324.57	8,046.27
			For Unit Without Heat, Deduct	-3,352.65	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-2,029.39	
23 74 16 13-0022	EA		55 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	62,015.42	8,827.47
			For Unit Without Heat, Deduct	-3,689.27	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-2,525.99	
23 74 16 13-0023	EA		60 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	67,706.24	9,608.66
			For Unit Without Heat, Deduct	-4,025.89	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-2,525.99	
23 74 16 13-0024	EA		65 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	73,229.04	10,389.84
			For Unit Without Heat, Deduct	-4,354.11	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-2,627.68	
23 74 16 13-0025	EA		70 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	78,751.82	11,171.04
			For Unit Without Heat, Deduct	-4,682.33	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-2,627.68	
23 74 16 13-0026	EA		75 Ton Electric Cooling, Electric Heat, Self Contained Package Rooftop Unit	84,378.76	12,030.35
			For Unit Without Heat, Deduct	-5,020.96	
			For Unit Without Factory Installed Economizer, Deduct	-2,351.59	
			For Unit Without Roof Curb, Deduct	-2,926.26	
23 74 16 13-0027			Electric Cooling, Gas Heat, Self Contained Packaged Rooftop Air-Conditioning Units (23 74 16 13) Note: Units < 5 tons have 14 SEER, units 5 to < 20 tons have 11 EER, and units 20 tons and over have 10 EER. Includes roof curb and economizer. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for Disconnects.		
23 74 16 13-0028	EA		2 Ton Electric Cooling, 50 MBH Gas Heating, Self Contained Package Rooftop Unit.....	4,946.03	1,562.39
			For Unit Without Factory Installed Economizer, Deduct	-1,103.56	
			For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0029	EA		3 Ton Electric Cooling, 60 To 80 MBH Gas Heating, Self Contained Package Rooftop Unit.....	5,638.72	1,796.74
			For Unit Without Factory Installed Economizer, Deduct	-1,103.56	
			For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0030	EA		4 Ton Electric Cooling, 80 To 110 MBH Gas Heating, Self Contained Package Rooftop Unit.....	6,953.83	2,070.16
			For Unit Without Factory Installed Economizer, Deduct	-1,103.56	
			For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0031	EA		5 Ton Electric Cooling, 100 To 120 MBH Gas Heating, Self Contained Package Rooftop Unit.....	7,972.92	2,226.40
			For Unit Without Factory Installed Economizer, Deduct	-1,103.56	
			For Unit Without Roof Curb, Deduct	-733.63	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0032	EA	6 Ton Electric Cooling, 140 MBH Gas Heating, Self Contained Package Rooftop Unit.....	8,934.18	2,402.17
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-1,103.56	
		<i>For Unit Without Roof Curb, Deduct</i>	-733.63	
23 74 16 13-0033	EA	7.5 Ton Electric Cooling, 150 To 180 MBH Gas Heating, Self Contained Package Rooftop Unit.....	9,761.40	2,519.35
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-1,126.35	
		<i>For Unit Without Roof Curb, Deduct</i>	-880.37	
23 74 16 13-0034	EA	8.5 Ton Electric Cooling, 170 To 190 MBH Gas Heating, Self Contained Package Rooftop Unit.....	11,671.28	2,089.69
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-1,126.35	
		<i>For Unit Without Roof Curb, Deduct</i>	-880.37	
23 74 16 13-0035	EA	10 Ton Electric Cooling, 200 To 240 MBH Gas Heating, Self Contained Package Rooftop Unit.....	14,569.27	2,812.29
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-1,151.88	
		<i>For Unit Without Roof Curb, Deduct</i>	-880.37	
23 74 16 13-0036	EA	12.5 Ton Electric Cooling, 250 MBH Gas Heating, Self Contained Package Rooftop Unit.....	15,916.17	3,046.64
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-1,244.02	
		<i>For Unit Without Roof Curb, Deduct</i>	-880.37	
23 74 16 13-0037	EA	15 Ton Electric Cooling, 300 MBH Gas Heating, Self Contained Package Rooftop Unit.....	19,248.06	3,281.01
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-880.37	
23 74 16 13-0038	EA	17.5 Ton Electric Cooling, 330 MBH Gas Heating, Self Contained Package Rooftop Unit.....	20,343.35	3,515.36
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-880.37	
23 74 16 13-0039	EA	20 Ton Electric Cooling, 350 MBH Gas Heating, Self Contained Package Rooftop Unit.....	31,167.85	3,749.72
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-880.37	
23 74 16 13-0040	EA	22.5 Ton Electric Cooling, 380 MBH Gas Heating, Self Contained Package Rooftop Unit.....	38,062.95	4,140.32
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-880.37	
23 74 16 13-0041	EA	25 Ton Electric Cooling, 400 MBH Gas Heating, Self Contained Package Rooftop Unit.....	44,958.06	4,478.83
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-880.37	
23 74 16 13-0042	EA	27.5 Ton Electric Cooling, 450 MBH Gas Heating, Self Contained Package Rooftop Unit.....	46,317.57	4,921.50
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-1,331.01	
23 74 16 13-0043	EA	30 Ton Electric Cooling, 500 MBH Gas Heating, Self Contained Package Rooftop Unit.....	49,706.80	5,312.10
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-1,331.01	
23 74 16 13-0044	EA	35 Ton Electric Cooling, 550 MBH Gas Heating, Self Contained Package Rooftop Unit.....	53,404.03	6,210.47
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-1,331.01	
23 74 16 13-0045	EA	40 Ton Electric Cooling, 600 MBH Gas Heating, Self Contained Package Rooftop Unit.....	59,130.98	7,108.84
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,029.39	
23 74 16 13-0046	EA	45 Ton Electric Cooling, 650 MBH Gas Heating, Self Contained Package Rooftop Unit.....	63,739.62	8,007.21
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,029.39	
23 74 16 13-0047	EA	50 Ton Electric Cooling, 750 MBH Gas Heating, Self Contained Package Rooftop Unit.....	68,348.26	8,905.58
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,029.39	
23 74 16 13-0048	EA	55 Ton Electric Cooling, 800 MBH Gas Heating, Self Contained Package Rooftop Unit.....	74,858.02	9,803.95
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,525.99	
23 74 16 13-0049	EA	60 Ton Electric Cooling, 850 MBH Gas Heating, Self Contained Package Rooftop Unit.....	81,367.76	10,702.33
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,525.99	
23 74 16 13-0050	EA	65 Ton Electric Cooling, 900 MBH Gas Heating, Self Contained Package Rooftop Unit.....	87,138.82	11,151.51
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,627.68	
23 74 16 13-0051	EA	70 Ton Electric Cooling, 950 MBH Gas Heating, Self Contained Package Rooftop Unit.....	92,883.83	11,581.16
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,627.68	
23 74 16 13-0052	EA	75 Ton Electric Cooling, 1,000 MBH Gas Heating, Self Contained Package Rooftop Unit.....	98,654.87	12,030.35
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,926.26	
23 74 16 13-0053	EA	80 Ton Electric Cooling, 1,100 MBH Gas Heating, Self Contained Package Rooftop Unit.....	104,451.97	12,499.07
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,926.26	
23 74 16 13-0054	EA	90 Ton Electric Cooling, 1,200 MBH Gas Heating, Self Contained Package Rooftop Unit.....	142,035.72	14,686.40
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,926.26	
23 74 16 13-0055	EA	100 Ton Electric Cooling, 1,350 MBH Gas Heating, Self Contained Package Rooftop Unit.....	163,639.89	17,889.29
		<i>For Unit Without Factory Installed Economizer, Deduct</i>	-2,351.59	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,926.26	

23 74 16 13-0056

AAON Rooftop Units (23 74 16 13)

Note: Units < 5 tons have 14 SEER minimum, units 5 to < 20 tons have 11 EER minimum, and units 20 tons and over have 10 EER minimum. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 07 72 13 00-0000 for roof curbs, 23 09 23 00-0000 for controls, 26 28 16 16-0001 for disconnects.

23 74 16 13-0057

AAON RQ Rooftop Units (23 74 16 13-0056)

Note: Includes 2" double wall foam panel construction, direct drive fan with VFD (or ECM motor), single stage on/off scroll compressor, terminal strip for field supplied thermostat, gas heat, manually adjustable OSA damper, microchannel condenser coils. Excludes economizer, controls, disconnect, roof curb, items not specifically mentioned above. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Packaged Outdoor HVAC Equipment			23 74

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0058	EA		2 Ton, Air Cooled Packaged Rooftop Units (AAON RQ-002) For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	14,435.70 1,564.12 1,696.97 1,336.02 1,529.03 7,795.53 1,819.79	1,562.39
23 74 16 13-0059	EA		3 Ton, Air Cooled Packaged Rooftop Units (AAON RQ-003) For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	15,725.75 1,676.92 1,819.79 1,431.27 1,639.32 7,795.53 1,819.79	1,796.74
23 74 16 13-0060	EA		4 Ton, Air Cooled Packaged Rooftop Units (AAON RQ-004) For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	16,313.40 1,676.92 1,819.79 1,431.27 1,639.32 7,795.53 1,819.79	2,070.16
23 74 16 13-0061	EA		5 Ton, Air Cooled Packaged Rooftop Units (AAON RQ-005) For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	16,719.74 1,676.92 1,819.79 1,431.27 1,639.32 7,795.53 1,819.79	2,226.40
23 74 16 13-0062	EA		6 Ton, Air Cooled Packaged Rooftop Units (AAON RQ-006) For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	18,295.13 1,676.92 1,819.79 1,431.27 1,639.32 7,795.53 1,819.79	2,714.69
23 74 16 13-0063			AAON RNA Rooftop Units (23 74 16 13-0056) Note: Includes 2" double wall foam panel construction, direct drive fan with VFD, single stage on/off compressor, terminal strip for field provided thermostat, gas heat, manually adjustable OSA damper. Excludes economizer, controls, disconnect, roof curb, items not specifically mentioned above. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 74 16 13-0064	EA		6 Ton, Air Cooled Packaged Rooftop Units (AAON RNA-006) For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	22,207.93 1,631.80 2,506.60 1,671.90 1,544.07 4,163.46 1,418.74	2,402.22
23 74 16 13-0065	EA		7 Ton, Air Cooled Packaged Rooftop Units (AAON RNA-007) For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	23,715.23 1,631.80 2,506.60 1,671.90 1,544.07 4,163.46 1,418.74	2,519.40
23 74 16 13-0066	EA		8 Ton, Air Cooled Packaged Rooftop Units (AAON RNA-008) For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	27,254.25 1,631.80 2,506.60 1,671.90 1,544.07 4,163.46 1,418.74	2,714.69
23 74 16 13-0067	EA		10 Ton, Air Cooled Packaged Rooftop Units (AAON RNA-010) For Factory Installed And Wired Dry Bulb Economizer, Add For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	27,517.30 1,631.80 2,506.60 1,671.90 1,544.07 4,163.46 1,418.74	2,812.29
23 74 16 13-0068			AAON RNB Rooftop Units (23 74 16 13-0056) Note: Includes 2" double wall foam panel construction, direct drive fan with VFD, (1) on/off scroll compressors, terminal strip for field provided thermostat, gas heat, factory installed 3 position economizer. Excludes controls, disconnect, roof curb, items not specifically mentioned above. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 74 16 13-0069	EA		9 Ton, Air Cooled Packaged Rooftop Units (AAON RNB-009) For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Factory Installed Exhaust Fan, Add For Hot Water Coil In Lieu Of Gas Heat, Add	32,718.50 2,403.83 1,879.95 1,491.43 3,970.45 1,426.26	2,812.29

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0070	EA	11 Ton, Air Cooled Packaged Rooftop Units (AAON RNB-011)	32,982.81	2,734.17
		For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add	2,403.83	
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	1,879.95	
		For Factory Installed Non-Fused Disconnect, Add	1,491.43	
		For Factory Installed Exhaust Fan, Add	3,970.45	
		For Hot Water Coil In Lieu Of Gas Heat, Add	1,426.26	
23 74 16 13-0071	EA	13 Ton, Air Cooled Packaged Rooftop Units (AAON RNB-013)	35,951.16	3,046.64
		For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add	2,403.83	
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	1,879.95	
		For Factory Installed Non-Fused Disconnect, Add	1,491.43	
		For Factory Installed Exhaust Fan, Add	3,970.45	
		For Hot Water Coil In Lieu Of Gas Heat, Add	1,426.26	
23 74 16 13-0072	EA	15 Ton, Air Cooled Packaged Rooftop Units (AAON RNB-015)	36,845.17	3,281.01
		For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add	2,403.83	
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	1,879.95	
		For Factory Installed Non-Fused Disconnect, Add	1,491.43	
		For Factory Installed Exhaust Fan, Add	3,970.45	
		For Hot Water Coil In Lieu Of Gas Heat, Add	1,426.26	
23 74 16 13-0073 AAON RNC Rooftop Units (23 74 16 13-0056)				
Note: Includes 2" double wall foam panel construction, direct drive fan with VFD, (2) on/off scroll compressors, terminal strip for field provided thermostat, gas heat, factory installed 3 position economizer. Excludes controls, disconnect, roof curb, items not specifically mentioned above. Excludes crane and associated personnel.				
23 74 16 13-0074	EA	16 Ton, Air Cooled Packaged Rooftop Units (AAON RNC-016)	47,603.49	3,281.01
		For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add	3,549.35	
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	2,506.60	
		For Factory Installed Non-Fused Disconnect, Add	1,491.43	
		For Factory Installed Exhaust Fan, Add	7,281.67	
		For Hot Water Coil In Lieu Of Gas Heat, Add	649.21	
23 74 16 13-0075	EA	18 Ton, Air Cooled Packaged Rooftop Units (AAON RNC-018)	51,430.23	3,515.36
		For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add	3,549.35	
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	2,506.60	
		For Factory Installed Non-Fused Disconnect, Add	1,491.43	
		For Factory Installed Exhaust Fan, Add	7,281.67	
		For Hot Water Coil In Lieu Of Gas Heat, Add	649.21	
23 74 16 13-0076	EA	20 Ton, Air Cooled Packaged Rooftop Units (AAON RNC-020)	54,492.45	3,749.72
		For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add	3,549.35	
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	2,506.60	
		For Factory Installed Non-Fused Disconnect, Add	1,491.43	
		For Factory Installed Exhaust Fan, Add	7,281.67	
		For Hot Water Coil In Lieu Of Gas Heat, Add	649.21	
23 74 16 13-0077	EA	25 Ton, Air Cooled Packaged Rooftop Units (AAON RNC-025)	58,885.36	4,530.91
		For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add	3,549.35	
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	2,506.60	
		For Factory Installed Non-Fused Disconnect, Add	1,491.43	
		For Factory Installed Exhaust Fan, Add	7,281.67	
		For Hot Water Coil In Lieu Of Gas Heat, Add	649.21	
23 74 16 13-0078	EA	30 Ton, Air Cooled Packaged Rooftop Units (AAON RNC-030)	66,757.43	5,312.10
		For Single Zone VAV Controls, Includes Modulating Compressor And Supply Fan, Add	3,549.35	
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	2,506.60	
		For Factory Installed Non-Fused Disconnect, Add	1,491.43	
		For Factory Installed Exhaust Fan, Add	7,281.67	
		For Hot Water Coil In Lieu Of Gas Heat, Add	649.21	
23 74 16 13-0079 AAON RND Rooftop Units (23 74 16 13-0056)				
Note: Includes 2" double wall foam panel construction, direct drive fan with VFD, (2) variable capacity digital scroll compressor and (2) on/off compressor, VAV unit controller (varies fan speed and compressor capacity for energy savings year round), cooling only - no heat, factory installed economizer with powered exhaust fans with VFD's, (building static pressure control), factory installed non-fused disconnect and factory start up. Excludes roof curb, items not specifically mentioned above. Excludes crane and associated personnel.				
23 74 16 13-0080	EA	26 Ton, Air Cooled Packaged Rooftop Units (AAON RND-026)	89,784.22	4,530.91
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,133.25	
		For Factory Installed Non-Fused Disconnect, Add	3,393.94	
		For Hot Water Coil In Lieu Of Gas Heat, Add	4,762.54	
23 74 16 13-0081	EA	31 Ton, Air Cooled Packaged Rooftop Units (AAON RND-031)	102,283.47	5,312.10
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,133.25	
		For Factory Installed Non-Fused Disconnect, Add	3,393.94	
		For Hot Water Coil In Lieu Of Gas Heat, Add	4,762.54	
23 74 16 13-0082	EA	40 Ton, Air Cooled Packaged Rooftop Units (AAON RND-040)	120,393.00	7,108.84
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,133.25	
		For Factory Installed Non-Fused Disconnect, Add	3,393.94	
		For Hot Water Coil In Lieu Of Gas Heat, Add	4,762.54	
23 74 16 13-0083	EA	50 Ton, Air Cooled Packaged Rooftop Units (AAON RND-050)	141,111.90	8,905.58
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,133.25	
		For Factory Installed Non-Fused Disconnect, Add	3,393.94	
		For Hot Water Coil In Lieu Of Gas Heat, Add	4,762.54	
23 74 16 13-0084	EA	60 Ton, Air Cooled Packaged Rooftop Units (AAON RND-060)	154,874.98	10,702.33
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,133.25	
		For Factory Installed Non-Fused Disconnect, Add	3,393.94	
		For Hot Water Coil In Lieu Of Gas Heat, Add	4,762.54	
23 74 16 13-0085	EA	70 Ton, Air Cooled Packaged Rooftop Units (AAON RND-070)	162,932.40	11,581.22
		For Factory Authorized Start Up, 4 Hour, One Trip, Add	3,133.25	
		For Factory Installed Non-Fused Disconnect, Add	3,393.94	
		For Hot Water Coil In Lieu Of Gas Heat, Add	4,762.54	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Packaged Outdoor HVAC Equipment			23 74

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0086			AAON RNE Rooftop Units (23 74 16 13-0086) Note: Includes 2" double wall foam panel construction, direct drive fan with VFD, (1 or 2) variable speed VFD controlled scroll compressor and (1 or 2) on/off compressor, VAV unit controller (varies fan speed and compressor capacity for energy savings year round), cooling only - no heat, factory installed economizer with powered exhaust fans with VFD's, (building static pressure control), Microchannel condenser coils with VFD controlled condenser fans, factory installed non-fused disconnect and factory start up. Excludes roof curb, items not specifically mentioned above. Excludes crane and associated personnel.		
23 74 16 13-0087	EA		55 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-055)..... For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Hot Water Coil In Lieu Of Gas Heat, Add	150,579.00 3,539.32 5,083.38 6,767.82	9,803.95
23 74 16 13-0088	EA		65 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-065)..... For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Hot Water Coil In Lieu Of Gas Heat, Add	165,823.65 3,539.32 5,083.38 6,767.82	11,151.56
23 74 16 13-0089	EA		75 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-075)..... For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Hot Water Coil In Lieu Of Gas Heat, Add	176,292.41 3,539.32 5,083.38 6,767.82	12,030.35
23 74 16 13-0090	EA		95 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-090)..... For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Hot Water Coil In Lieu Of Gas Heat, Add	213,136.14 3,539.32 5,083.38 6,767.82	16,287.84
23 74 16 13-0091	EA		105 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-105)..... For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Hot Water Coil In Lieu Of Gas Heat, Add	230,739.60 3,539.32 5,083.38 6,767.82	18,592.36
23 74 16 13-0092	EA		120 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-120)..... For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Hot Water Coil In Lieu Of Gas Heat, Add	269,219.12 3,539.32 5,083.38 6,767.82	20,467.22
23 74 16 13-0093	EA		130 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-130)..... For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Hot Water Coil In Lieu Of Gas Heat, Add	275,715.89 3,539.32 5,083.38 6,767.82	21,717.12
23 74 16 13-0094	EA		140 Ton, Air Cooled Packaged Rooftop Units (AAON RNE-140)..... For Factory Authorized Start Up, 4 Hour, One Trip, Add For Factory Installed Non-Fused Disconnect, Add For Hot Water Coil In Lieu Of Gas Heat, Add	288,775.96 3,539.32 5,083.38 6,767.82	24,295.07
23 74 16 13-0095			Removal And Reinstallation Of Packaged Rooftop Air-Conditioning Units (23 74 16 13) Note: Includes storage and cleaning.		
23 74 16 13-0096	EA		Removal And Reinstallation Of Up To 5 Ton, Roof Top Unit.....	600.35	
23 74 16 13-0097	EA		Removal And Reinstallation Of >5 To 10 Ton, Roof Top Unit.....	818.66	
23 74 16 13-0098	EA		Removal And Reinstallation Of >10 To 15 Ton, Roof Top Unit.....	1,091.44	
23 74 16 13-0099	EA		Removal And Reinstallation Of >15 To 25 Ton, Roof Top Unit.....	1,745.75	
23 74 16 13-0100	EA		Removal And Reinstallation Of >25 To 50 Ton, Roof Top Unit.....	3,055.55	
23 74 16 13-0101	EA		Removal And Reinstallation Of >50 To 75 Ton, Roof Top Unit.....	4,365.77	
23 74 16 13-0102			Packaged Rooftop Units (Trane, Carrier Or Equal) (23 74 16 13) Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0103			Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) (23 74 16 13-0102)		
23 74 16 13-0104			Standard Efficiency Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) (23 74 16 13-0103) Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 74 16 13-0105	EA		3 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC036)..... For Factory Installed Economizer, Add For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor.	11,302.47 1,138.98 734.98 975.20 1,761.60	1,796.74
23 74 16 13-0106	EA		4 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC048)..... For Factory Installed Economizer, Add For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor.	12,582.01 1,233.90 734.98 975.20 1,761.60	2,070.16
23 74 16 13-0107	EA		5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC060)..... For Factory Installed Economizer, Add For Roof Curb, Add For Factory Installed BACnet, Add For Demand Control Ventilation, Add Note: Includes CO2 wall mounted sensor.	13,731.89 1,233.90 734.98 975.20 1,761.60	2,226.40

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0108	EA		6 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC072).....	15,156.49	2,402.22
			For Factory Installed Economizer, Add	1,233.90	
			For Roof Curb, Add	734.98	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	1,761.60	
			Note: Includes CO2 wall mounted sensor.		
23 74 16 13-0109	EA		7.5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC092).....	17,742.55	2,519.40
			For Factory Installed Economizer, Add	1,233.90	
			For Roof Curb, Add	881.97	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	1,761.60	
			Note: Includes CO2 wall mounted sensor.		
23 74 16 13-0110	EA		8.5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC102).....	19,267.21	2,714.69
			For Factory Installed Economizer, Add	1,233.90	
			For Roof Curb, Add	881.97	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	1,761.60	
			Note: Includes CO2 wall mounted sensor.		
23 74 16 13-0111	EA		10 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Precedent YSC120).....	25,496.64	2,812.29
			For Factory Installed Economizer, Add	1,233.90	
			For Roof Curb, Add	881.97	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	1,761.60	
			Note: Includes CO2 wall mounted sensor.		
23 74 16 13-0112	EA		12.5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager YSD150).....	29,279.21	3,046.64
			For Economizer, Add	2,158.66	
			For Roof Curb, Add	827.30	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.96	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
23 74 16 13-0113	EA		15 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager YSD180).....	31,989.24	3,281.01
			For Economizer, Add	2,158.66	
			For Roof Curb, Add	827.30	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.96	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
23 74 16 13-0114	EA		17.5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager YSD210).....	36,933.57	3,515.36
			For Economizer, Add	2,158.66	
			For Roof Curb, Add	827.30	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.96	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
23 74 16 13-0115	EA		20 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager YSD240).....	40,349.77	3,749.72
			For Economizer, Add	2,158.66	
			For Roof Curb, Add	827.30	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.96	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
23 74 16 13-0116	EA		25 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager YSD300).....	46,552.84	4,530.91
			For Economizer, Add	2,158.66	
			For Roof Curb, Add	827.30	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.96	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
23 74 16 13-0117	EA		27.5 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager III YCD330).....	50,786.71	4,921.50
			For Factory Installed BACnet, Add	975.20	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	4,834.82	
			For Roof Curb, Add	1,453.22	
23 74 16 13-0118	EA		30 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager III YCD360).....	53,532.30	5,312.10
			For Factory Installed BACnet, Add	975.20	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	4,834.82	
			For Roof Curb, Add	1,453.22	
23 74 16 13-0119	EA		35 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager III YCD420).....	60,085.24	6,210.47
			For Factory Installed BACnet, Add	975.20	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	4,834.82	
			For Roof Curb, Add	1,453.22	
23 74 16 13-0120	EA		40 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager III YCD480).....	65,480.21	7,108.84
			For Factory Installed BACnet, Add	975.20	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	4,834.82	
			For Roof Curb, Add	1,657.65	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Packaged Outdoor HVAC Equipment			23 74

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0121	EA		50 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Voyager III YCD600).....	76,291.02	8,905.58
			For Factory Installed BACnet, Add	975.20	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	4,834.82	
			For Roof Curb, Add	1,657.65	
23 74 16 13-0122	EA		55 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF554).....	110,794.53	9,803.95
			For Economizer And Powered Exhaust, Add	13,100.74	
			For Roof Curb, Add	2,630.65	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
23 74 16 13-0123	EA		60 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF604).....	119,295.11	10,702.33
			For Economizer And Powered Exhaust, Add	14,834.62	
			For Roof Curb, Add	2,929.52	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
23 74 16 13-0124	EA		70 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF704).....	133,933.44	11,581.22
			For Economizer And Powered Exhaust, Add	15,399.15	
			For Roof Curb, Add	2,929.52	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
23 74 16 13-0125	EA		75 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF754).....	145,077.40	12,030.35
			For Roof Curb, Add	2,929.52	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	16,068.09	
23 74 16 13-0126	EA		90 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHHC904).....	174,906.47	14,686.40
			Note: Includes economizer, powered exhaust and roof curb.		
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
23 74 16 13-0127	EA		105 Ton, Standard Efficiency, Gas Heat, Electric Cooling, DX Unitary Package Rooftop Unit (Trane Intellipak SFHKD114).....	190,372.83	18,592.36
			Note: Includes economizer, powered exhaust and roof curb.		
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
23 74 16 13-0128			High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) (23 74 16 13-0103)		
			Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0129	EA		3 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC036).....	12,076.98	1,796.74
			For Roof Curb, Add	734.98	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	1,761.60	
			Note: Includes CO2 wall mounted sensor.		
			For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0130	EA		4 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC048).....	13,683.03	2,070.16
			For Roof Curb, Add	734.98	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	1,761.60	
			Note: Includes CO2 wall mounted sensor.		
			For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0131	EA		5 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC060).....	14,977.18	2,226.40
			For Roof Curb, Add	734.98	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	1,761.60	
			Note: Includes CO2 wall mounted sensor.		
			For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0132	EA		6 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC072).....	16,371.40	2,402.22
			For Roof Curb, Add	734.98	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	1,761.60	
			Note: Includes CO2 wall mounted sensor.		
			For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0133	EA		7.5 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC092).....	23,651.96	2,519.40
			For Roof Curb, Add	881.97	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	1,761.60	
			Note: Includes CO2 wall mounted sensor.		
			For Factory Installed Economizer, Add	1,126.37	
23 74 16 13-0134	EA		8.5 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC102).....	25,366.44	2,714.69
			For Roof Curb, Add	881.97	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	1,761.60	
			Note: Includes CO2 wall mounted sensor.		
			For Factory Installed Economizer, Add	1,126.37	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0135	EA		10 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Precedent YHC120).....	27,641.72	2,812.29
			For Roof Curb, Add	881.97	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	1,761.60	
			Note: Includes CO2 wall mounted sensor.		
			For Factory Installed Economizer, Add	1,151.88	
23 74 16 13-0136	EA		12.5 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Voyager YHD150).....	31,904.56	3,046.64
			For Roof Curb, Add	881.97	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.96	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
			For Factory Installed Economizer, Add	1,244.02	
23 74 16 13-0137	EA		15 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Voyager YHD180).....	34,214.05	3,281.01
			For Roof Curb, Add	881.97	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.96	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
			For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0138	EA		17.5 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Voyager YHD210).....	39,781.02	3,515.36
			For Roof Curb, Add	881.97	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.96	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
			For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0139	EA		20 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Voyager YHD240).....	43,819.87	3,749.72
			For Roof Curb, Add	881.97	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.96	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
			For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0140	EA		25 Ton, High Efficiency, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Voyager YHD300).....	58,842.43	4,530.91
			For Roof Curb, Add	881.97	
			For Factory Installed BACnet, Add	975.20	
			For Demand Control Ventilation, Add	2,175.96	
			Note: Includes ventilation module and CO2 wall mounted sensor kit.		
			For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0141	EA		30 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF304).....	74,408.01	5,312.10
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	7,306.58	
			For Roof Curb, Add	1,333.20	
23 74 16 13-0142	EA		40 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF404).....	99,129.39	7,108.84
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	8,222.19	
			For Roof Curb, Add	2,031.83	
23 74 16 13-0143	EA		50 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF504).....	113,879.26	8,905.58
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Economizer And Powered Exhaust, Add	12,058.89	
			For Roof Curb, Add	2,031.83	
23 74 16 13-0144	EA		55 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF554).....	126,398.55	9,803.95
			For Economizer And Powered Exhaust, Add	13,100.74	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Roof Curb, Add	2,528.66	
23 74 16 13-0145	EA		60 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF604).....	134,211.95	10,702.33
			For Economizer And Powered Exhaust, Add	14,834.62	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Roof Curb, Add	2,528.66	
23 74 16 13-0146	EA		70 Ton, Variable Speed Compressor, Electric Cooling, Gas Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SFHLF704).....	150,395.49	11,581.22
			For Economizer And Powered Exhaust, Add	15,399.15	
			For Roof Curb, Add	2,630.65	
			For Factory Installed BACnet, Add	1,346.67	
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	

23 74 16 13-0147

Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) (23 74 16 13-0102)

Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Packaged Outdoor HVAC Equipment			23 74

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0148	EA		3 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC036E)	8,356.90	1,617.06
			For Roof Curb, Add	734.98	
			For Factory Installed Economizer, Add	1,103.56	
			For Factory Installed BACnet, Add	2,199.72	
			For Demand Control Ventilation, Add	2,427.85	
23 74 16 13-0149	EA		4 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC048F)	9,344.13	1,863.19
			For Roof Curb, Add	734.98	
			For Factory Installed Economizer, Add	1,103.56	
			For Factory Installed BACnet, Add	2,626.50	
			For Demand Control Ventilation, Add	2,427.85	
23 74 16 13-0150	EA		5 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC060E)	10,206.74	2,003.81
			For Roof Curb, Add	734.98	
			For Factory Installed Economizer, Add	1,103.56	
			For Factory Installed BACnet, Add	2,626.50	
			For Demand Control Ventilation, Add	2,427.85	
23 74 16 13-0151	EA		6 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC072F)	11,415.93	2,161.92
			For Roof Curb, Add	734.98	
			For Factory Installed Economizer, Add	1,103.56	
			For Factory Installed BACnet, Add	2,626.50	
			For Demand Control Ventilation, Add	2,427.85	
23 74 16 13-0152	EA		7.5 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC090F)	13,305.92	2,267.44
			For Roof Curb, Add	881.97	
			For Factory Installed Economizer, Add	1,126.37	
			For Factory Installed BACnet, Add	2,820.15	
			For Demand Control Ventilation, Add	2,483.18	
23 74 16 13-0153	EA		8.5 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC102F)	14,462.57	2,443.15
			For Roof Curb, Add	881.97	
			For Factory Installed Economizer, Add	1,126.37	
			For Factory Installed BACnet, Add	2,820.15	
			For Demand Control Ventilation, Add	2,483.18	
23 74 16 13-0154	EA		10 Ton, Ultra High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Precedent eFlex TZC120F)	15,853.19	2,531.06
			For Roof Curb, Add	881.97	
			For Factory Installed Economizer, Add	1,151.88	
			For Factory Installed BACnet, Add	2,820.15	
			For Demand Control Ventilation, Add	2,483.18	
23 74 16 13-0155	EA		12.5 Ton, High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Voyager eFlex TZ*150F)	17,734.22	2,741.99
			Note: * = Downflow or Horizontal		
			For Roof Curb, Add	881.97	
			For Factory Installed Economizer, Add	1,244.02	
			For Factory Installed BACnet, Add	3,760.20	
			For Demand Control Ventilation, Add	3,038.39	
23 74 16 13-0156	EA		15 Ton, High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Voyager eFlex TZ*180F)	19,991.19	2,952.90
			Note: * = Downflow or Horizontal		
			For Roof Curb, Add	881.97	
			For Factory Installed Economizer, Add	2,351.59	
			For Factory Installed BACnet, Add	3,760.20	
			For Demand Control Ventilation, Add	3,038.39	
23 74 16 13-0157	EA		17.5 Ton, High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Voyager eFlex TZ*210F)	23,676.01	3,163.83
			Note: * = Downflow or Horizontal		
			For Roof Curb, Add	881.97	
			For Factory Installed Economizer, Add	2,351.59	
			For Factory Installed BACnet, Add	3,760.20	
			For Demand Control Ventilation, Add	3,038.39	
23 74 16 13-0158	EA		20 Ton, High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Voyager TH*240)	26,192.95	3,374.75
			Note: * = Downflow or Horizontal		
			For Roof Curb, Add	881.97	
			For Factory Installed Economizer, Add	2,351.59	
			For Factory Installed BACnet, Add	5,248.60	
			For Demand Control Ventilation, Add	3,038.39	
23 74 16 13-0159	EA		25 Ton, High Efficiency, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Voyager TH*300)	30,273.99	4,077.82
			Note: * = Downflow or Horizontal		
			For Roof Curb, Add	881.97	
			For Factory Installed Economizer, Add	2,351.59	
			For Factory Installed BACnet, Add	5,248.60	
			For Demand Control Ventilation, Add	3,434.42	
23 74 16 13-0160	EA		55 Ton, Variable Speed Compressor, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SEHL*55)	110,115.66	8,823.61
			For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
			For Factory Installed Economizer, Add	2,351.59	
			For Roof Curb, Add	2,528.66	
			For Demand Control Ventilation, Add	4,849.78	
			For Factory Installed BACnet, Add	13,787.39	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0161	EA	60 Ton, Variable Speed Compressor, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SEHL*60).....	120,134.71	9,632.09
		For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
		For Factory Installed Economizer, Add	2,351.59	
		For Roof Curb, Add	2,528.66	
		For Demand Control Ventilation, Add	4,849.78	
		For Factory Installed BACnet, Add	13,787.39	
23 74 16 13-0162	EA	70 Ton, Variable Speed Compressor, Electric Cooling, Electric Heat, DX Unitary Package Rooftop Unit (Trane Intellipak SEHL*70).....	132,825.90	10,423.08
		For Roof Curb, Add	2,630.65	
		For Factory Installed VAV Single Zone Option (VFD Without Bypass), Add	2,071.80	
		For Factory Installed Economizer, Add	2,351.59	
		For Demand Control Ventilation, Add	7,982.98	
		For Factory Installed BACnet, Add	13,787.39	
23 74 16 13-0163		Cooling Only DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) ⁽²³⁾ 74 16 13-0102 See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0164		High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane, Carrier Or Equal) ^(23 74 16 13-0163) Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.		
23 74 16 13-0165	EA	3 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC036).....	7,799.69	1,617.06
		For Roof Curb, Add	734.98	
		For Factory Installed Electric Heat, Add	1,017.49	
		For Factory Installed BACnet, Add	975.20	
		For Demand Control Ventilation, Add	1,761.60	
		Note: Includes CO2 wall mounted sensor.		
		For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0166	EA	4 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC048).....	8,873.31	1,863.19
		For Roof Curb, Add	734.98	
		For Factory Installed Electric Heat, Add	1,017.49	
		For Factory Installed BACnet, Add	975.20	
		For Demand Control Ventilation, Add	1,761.60	
		Note: Includes CO2 wall mounted sensor.		
		For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0167	EA	5 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC060).....	9,702.83	2,003.81
		For Roof Curb, Add	734.98	
		For Factory Installed Electric Heat, Add	1,017.49	
		For Factory Installed BACnet, Add	975.20	
		For Demand Control Ventilation, Add	1,761.60	
		Note: Includes CO2 wall mounted sensor.		
		For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0168	EA	6 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC072).....	10,510.16	2,161.92
		For Roof Curb, Add	734.98	
		For Factory Installed Electric Heat, Add	1,017.49	
		For Factory Installed BACnet, Add	975.20	
		For Demand Control Ventilation, Add	1,761.60	
		Note: Includes CO2 wall mounted sensor.		
		For Factory Installed Economizer, Add	1,103.56	
23 74 16 13-0169	EA	7.5 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC092).....	14,010.01	2,267.44
		For Roof Curb, Add	881.97	
		For Factory Installed Electric Heat, Add	1,235.79	
		For Factory Installed BACnet, Add	975.20	
		For Demand Control Ventilation, Add	1,761.60	
		Note: Includes CO2 wall mounted sensor.		
		For Factory Installed Economizer, Add	1,126.37	
23 74 16 13-0170	EA	8.5 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC102).....	15,015.47	2,443.15
		For Roof Curb, Add	881.97	
		For Factory Installed Electric Heat, Add	1,235.79	
		For Factory Installed BACnet, Add	975.20	
		For Demand Control Ventilation, Add	1,761.60	
		Note: Includes CO2 wall mounted sensor.		
		For Factory Installed Economizer, Add	1,126.37	
23 74 16 13-0171	EA	10 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Precedent THC120).....	16,314.34	2,531.06
		For Roof Curb, Add	881.97	
		For Factory Installed Electric Heat, Add	1,235.79	
		For Factory Installed BACnet, Add	975.20	
		For Demand Control Ventilation, Add	1,761.60	
		Note: Includes CO2 wall mounted sensor.		
		For Factory Installed Economizer, Add	1,151.88	
23 74 16 13-0172	EA	12.5 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Voyager THD150).....	20,081.66	2,741.99
		For Roof Curb, Add	881.97	
		For Factory Installed Electric Heat, Add	1,427.52	
		For Factory Installed BACnet, Add	975.20	
		For Demand Control Ventilation, Add	2,175.96	
		Note: Includes ventilation module and CO2 wall mounted sensor kit.		
		For Factory Installed Economizer, Add	1,244.02	
23 74 16 13-0173	EA	15 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Voyager THD180).....	21,305.33	2,952.90
		For Roof Curb, Add	881.97	
		For Factory Installed Electric Heat, Add	1,427.52	
		For Factory Installed BACnet, Add	975.20	
		For Demand Control Ventilation, Add	2,175.96	
		Note: Includes ventilation module and CO2 wall mounted sensor kit.		
		For Factory Installed Economizer, Add	2,351.59	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Packaged Outdoor HVAC Equipment			23 74

23

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0174	EA	17.5 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Voyager THD210)	.....	25,000.34	3,163.83
		For Roof Curb, Add		881.97	
		For Factory Installed Electric Heat, Add		1,647.72	
		For Factory Installed BACnet, Add		975.20	
		For Demand Control Ventilation, Add		2,175.96	
		Note: Includes ventilation module and CO2 wall mounted sensor kit.			
		For Factory Installed Economizer, Add		2,351.59	
23 74 16 13-0175	EA	20 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Voyager THD240)	.....	27,128.64	3,374.75
		For Roof Curb, Add		881.97	
		For Factory Installed Electric Heat, Add		1,647.72	
		For Factory Installed BACnet, Add		975.20	
		For Demand Control Ventilation, Add		2,175.96	
		Note: Includes ventilation module and CO2 wall mounted sensor kit.			
		For Factory Installed Economizer, Add		2,351.59	
23 74 16 13-0176	EA	25 Ton, High Efficiency, Cooling Only DX Unitary Package Rooftop Unit (Trane Voyager THD300)	.....	29,897.57	4,077.82
		For Roof Curb, Add		881.97	
		For Factory Installed Electric Heat, Add		1,647.72	
		For Factory Installed BACnet, Add		975.20	
		For Demand Control Ventilation, Add		2,175.96	
		Note: Includes ventilation module and CO2 wall mounted sensor kit.			
		For Factory Installed Economizer, Add		2,351.59	
23 74 16 13-0177		Heat Pump Unitary Package Rooftop Unit (Trane, Carrier Or Equal) (23 74 16 13-0102)			
		See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.			
23 74 16 13-0178		Standard Efficiency Heat Pump Unitary Package Rooftop Unit (Trane, Carrier Or Equal) (23 74 16 13-0177)			
		Note: Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.			
23 74 16 13-0179	EA	3 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC036)	.....	8,240.20	1,617.06
		For Roof Curb, Add		734.98	
		For High Efficiency, Add		745.30	
		For Factory Installed Electric Heat, Add		1,017.49	
		For Factory Installed BACnet, Add		975.20	
		For Demand Control Ventilation, Add		1,761.60	
		Note: Includes CO2 wall mounted sensor.			
		For Factory Installed Economizer, Add		1,103.56	
23 74 16 13-0180	EA	4 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC048)	.....	9,125.00	1,863.19
		For Roof Curb, Add		734.98	
		For High Efficiency, Add		813.50	
		For Factory Installed Electric Heat, Add		1,017.49	
		For Factory Installed BACnet, Add		975.20	
		For Demand Control Ventilation, Add		1,761.60	
		Note: Includes CO2 wall mounted sensor.			
		For Factory Installed Economizer, Add		1,103.56	
23 74 16 13-0181	EA	5 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC060)	.....	10,022.60	2,003.81
		For Roof Curb, Add		734.98	
		For High Efficiency, Add		900.49	
		For Factory Installed Electric Heat, Add		1,017.49	
		For Factory Installed BACnet, Add		975.20	
		For Demand Control Ventilation, Add		1,761.60	
		Note: Includes CO2 wall mounted sensor.			
		For Factory Installed Economizer, Add		1,103.56	
23 74 16 13-0182	EA	6 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC072)	.....	10,943.62	2,161.92
		For Roof Curb, Add		734.98	
		For High Efficiency, Add		987.47	
		For Factory Installed Electric Heat, Add		1,017.49	
		For Factory Installed BACnet, Add		975.20	
		For Demand Control Ventilation, Add		1,761.60	
		Note: Includes CO2 wall mounted sensor.			
		For Factory Installed Economizer, Add		1,103.56	
23 74 16 13-0183	EA	7.5 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC090)	.....	12,318.49	2,267.44
		For Roof Curb, Add		881.97	
		For High Efficiency, Add		1,138.67	
		For Factory Installed Electric Heat, Add		1,235.79	
		For Factory Installed BACnet, Add		975.20	
		For Demand Control Ventilation, Add		1,761.60	
		Note: Includes CO2 wall mounted sensor.			
		For Factory Installed Economizer, Add		1,126.37	
23 74 16 13-0184	EA	8.5 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC102)	.....	14,657.59	2,443.15
		For Roof Curb, Add		881.97	
		For High Efficiency, Add		1,396.50	
		For Factory Installed Electric Heat, Add		1,235.79	
		For Factory Installed BACnet, Add		975.20	
		For Demand Control Ventilation, Add		1,761.60	
		Note: Includes CO2 wall mounted sensor.			
		For Factory Installed Economizer, Add		1,126.37	
23 74 16 13-0185	EA	10 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Precedent WSC120)	.....	16,879.51	2,531.06
		For Roof Curb, Add		881.97	
		For High Efficiency, Add		1,654.33	
		For Factory Installed Electric Heat, Add		1,235.79	
		For Factory Installed BACnet, Add		975.20	
		For Demand Control Ventilation, Add		1,761.60	
		Note: Includes CO2 wall mounted sensor.			
		For Factory Installed Economizer, Add		1,151.88	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0186 EA 12.5 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Voyager WCD150)	21,069.22	2,741.99
For Roof Curb, Add	881.97	
For High Efficiency, Add	2,133.12	
For Factory Installed Electric Heat, Add	1,427.52	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.96	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
For Factory Installed Economizer, Add	1,244.02	
23 74 16 13-0187 EA 15 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Voyager WCD180)	22,997.28	2,952.90
For Roof Curb, Add	881.97	
For High Efficiency, Add	2,334.86	
For Factory Installed Electric Heat, Add	1,427.52	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.96	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0188 EA 20 Ton, Standard Efficiency, Heat Pump Unitary Package Rooftop Unit (Trane Voyager WCD240)	30,318.98	3,374.75
For Roof Curb, Add	881.97	
For High Efficiency, Add	3,162.87	
For Factory Installed Electric Heat, Add	1,647.72	
For Factory Installed BACnet, Add	975.20	
For Demand Control Ventilation, Add	2,175.96	
Note: Includes ventilation module and CO2 wall mounted sensor kit.		
For Factory Installed Economizer, Add	2,351.59	
23 74 16 13-0189 Trane Curb Adapters (23 74 16 13)		
Note: All adapter selections assume the existing unit rests on a factory standard curb. The new unit reference is based on current Trane units, Precedent and Voyager II models only. The existing unit reference is based on Trane, Carrier, York or Lennox units only. Non-standard L-shape and/or duct shroud configurations were not considered. Trane Intellipak or Voyager III footprints are not considered. Some units have larger than normal sizes or multiple footprints possible, which were not considered. Step-sized replacements (installing new unit that is either larger or smaller capacity than existing) are not considered.		
23 74 16 13-0190 EA 3 To 5 Ton, Trane Curb Adapter	1,589.58	
23 74 16 13-0191 EA 6 To 7-1/2 Ton, Trane Curb Adapter	2,077.18	
23 74 16 13-0192 EA 8-1/2 To 10 Ton, Trane Curb Adapter	2,174.70	
23 74 16 13-0193 EA 12-1/2 Ton, Standard Efficiency, Trane Curb Adapter	2,379.49	
23 74 16 13-0194 EA 12-1/2 Ton, High Efficiency, Trane Curb Adapter	2,428.25	
23 74 16 13-0195 EA 15 Ton, Trane Curb Adapter	2,662.30	
23 74 16 13-0196 EA 17-1/2 Ton, Trane Curb Adapter	2,681.80	
23 74 16 13-0197 EA 20 Ton, Trane Curb Adapter	2,993.86	
23 74 16 13-0198 EA 25 Ton, Trane Curb Adapter	3,413.20	
23 74 16 13-0199 Trane Condenser Coil Guards (23 74 16 13)		
23 74 16 13-0200 EA Condenser Coil Guard (Trane BAYGARD058A)	1,090.52	81.86
Note: Coil Guard for TTA/TWA061, TTA/TWA073, TTA/TWA076 and CTA/TTA/TWA090 Condenser Coils.		
23 74 16 13-0201 EA Condenser Coil Guard (Trane BAYGARD059A)	1,387.30	95.50
Note: Coil Guard for TTA086, TTA101 and CTA/TTA120 Condenser Coils.		
23 74 16 13-0202 EA Condenser Coil Guard (Trane BAYGARD060A)	1,480.29	109.14
Note: Coil Guard for TWA101, TWA120, TTA126 and TTA150 Condenser Coils.		
23 74 16 13-0203 EA Condenser Coil Guard (Trane BAYGARD061A)	1,977.54	122.78
Note: Coil Guard for TTA/TWA156, CTA/TTA/TWA180, TTA/TWA201 and TTA/TWA240 Condenser Coils.		
23 74 16 13-0204 EA Condenser Coil Guard (Trane BAYGARD062A)	2,195.44	136.43
Note: Coil Guard for TTA300 and TTA251 Split-System Air Conditioners.		
23 74 16 13-0205 Heat Pump, Packaged Rooftop Heat Pump Units (23 74 16 13)		
See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.		
23 74 16 13-0206 Packaged Rooftop Heat Pump Units (23 74 16 13-0205)		
Note: Includes evaporator and condenser coils, electric heat, thermostatic expansion valve, compressor, evaporator and condenser fans, refrigerant charge, filter section with filter, operation and safety controls, motors, condensate drain pan, condenser coil guards, manual outside air damper, and roof curb. Excludes crane and associated personnel.		
23 74 16 13-0207 EA 2 Ton Packaged Rooftop Heat Pump	6,322.81	1,406.15
For Economizer With Outside Air Control, Add	1,871.50	
For Upgrade Of Economizer To OS Air Enthalpy Control, Add	222.40	
For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0208 EA 2.5 Ton Packaged Rooftop Heat Pump	6,658.93	1,511.66
For Economizer With Outside Air Control, Add	1,982.86	
For Upgrade Of Economizer To OS Air Enthalpy Control, Add	232.17	
For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0209 EA 3 Ton Packaged Rooftop Heat Pump	7,043.94	1,617.06
For Economizer With Outside Air Control, Add	2,104.49	
For Upgrade Of Economizer To OS Air Enthalpy Control, Add	244.39	
For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0210 EA 3.5 Ton Packaged Rooftop Heat Pump	7,559.12	1,740.08
For Economizer With Outside Air Control, Add	2,050.70	
For Upgrade Of Economizer To OS Air Enthalpy Control, Add	261.95	
For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0211 EA 4 Ton Packaged Rooftop Heat Pump	8,074.51	1,863.19
For Economizer With Outside Air Control, Add	2,192.45	
For Upgrade Of Economizer To OS Air Enthalpy Control, Add	279.52	
For Unit Without Roof Curb, Deduct	-733.63	



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Central HVAC Equipment			23 70	
Packaged Outdoor HVAC Equipment			23 74	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 74 16 13-0212	EA		5 Ton Packaged Rooftop Heat Pump	8,654.63	2,003.81
			For Economizer With Outside Air Control, Add	2,352.94	
			For Upgrade Of Economizer To OS Air Enthalpy Control, Add	239.32	
			For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0213	EA		6 Ton Packaged Rooftop Heat Pump	9,732.34	2,161.92
			For Economizer With Outside Air Control, Add	2,605.76	
			For Upgrade Of Economizer To OS Air Enthalpy Control, Add	205.49	
			For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0214	EA		7.5 Ton Packaged Rooftop Heat Pump	12,489.31	2,267.44
			For Economizer With Outside Air Control, Add	2,647.54	
			For Upgrade Of Economizer To OS Air Enthalpy Control, Add	283.98	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0215	EA		8.5 Ton Packaged Rooftop Heat Pump	13,964.90	2,443.15
			For Economizer With Outside Air Control, Add	2,806.59	
			For Upgrade Of Economizer To OS Air Enthalpy Control, Add	321.22	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0216	EA		10 Ton Packaged Rooftop Heat Pump	15,010.12	2,531.06
			For Economizer With Outside Air Control, Add	2,850.91	
			For Upgrade Of Economizer To OS Air Enthalpy Control, Add	232.71	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0217	EA		12.5 Ton Packaged Rooftop Heat Pump	17,403.08	2,741.99
			For Economizer With Outside Air Control, Add	3,202.70	
			For Upgrade Of Economizer To OS Air Enthalpy Control, Add	274.94	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0218	EA		15 Ton Packaged Rooftop Heat Pump	19,796.02	2,952.90
			For Economizer With Outside Air Control, Add	3,554.48	
			For Upgrade Of Economizer To OS Air Enthalpy Control, Add	317.18	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0219	EA		17.5 Ton Packaged Rooftop Heat Pump	22,163.95	3,163.83
			For Economizer With Outside Air Control, Add	3,903.77	
			For Upgrade Of Economizer To OS Air Enthalpy Control, Add	358.91	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0220	EA		20 Ton Packaged Rooftop Heat Pump	24,531.86	3,374.75
			For Economizer With Outside Air Control, Add	4,253.05	
			For Upgrade Of Economizer To OS Air Enthalpy Control, Add	400.64	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0221			Heating Only Packaged Rooftop Units (23 74 16 13-0205)		
Note: Includes throwaway filters, filter rack, manual outside air damper, roof curbs and electric heat. Units are shipped fully factory assembled in one piece, prewired and include start-up. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 28 16 16-0001 for disconnects.					
23 74 16 13-0222	EA		24 MBH Electric Heating Only, Self Contained Package Rooftop Unit	6,677.84	1,406.15
			For Gas Heat, Add	429.95	
			For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0223	EA		32 MBH Electric Heating Only, Self Contained Package Rooftop Unit	7,846.89	1,617.06
			For Gas Heat, Add	506.16	
			For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0224	EA		45 MBH Electric Heating Only, Self Contained Package Rooftop Unit	10,751.15	1,863.19
			For Gas Heat, Add	702.90	
			For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0225	EA		60 MBH Electric Heating Only, Self Contained Package Rooftop Unit	12,132.10	2,003.81
			For Gas Heat, Add	795.81	
			For Unit Without Roof Curb, Deduct	-733.63	
23 74 16 13-0226	EA		95 MBH Electric Heating Only, Self Contained Package Rooftop Unit	14,259.28	2,267.44
			For Gas Heat, Add	937.69	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0227	EA		112 MBH Electric Heating Only, Self Contained Package Rooftop Unit	16,065.53	2,443.15
			For Gas Heat, Add	1,059.44	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0228	EA		140 MBH Electric Heating Only, Self Contained Package Rooftop Unit	19,023.75	2,531.06
			For Gas Heat, Add	1,264.17	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0229	EA		170 MBH Electric Heating Only, Self Contained Package Rooftop Unit	24,721.03	2,952.90
			For Gas Heat, Add	1,651.73	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0230	EA		200 MBH Electric Heating Only, Self Contained Package Rooftop Unit	32,672.49	3,163.83
			For Gas Heat, Add	2,202.71	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0231	EA		230 MBH Electric Heating Only, Self Contained Package Rooftop Unit	38,149.66	3,374.75
			For Gas Heat, Add	2,580.48	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0232	EA		270 MBH Electric Heating Only, Self Contained Package Rooftop Unit	49,627.40	3,726.29
			For Gas Heat, Add	3,374.55	
			For Unit Without Roof Curb, Deduct	-880.37	
23 74 16 13-0233	EA		330 MBH Electric Heating Only, Self Contained Package Rooftop Unit	62,071.62	4,741.84
			For Gas Heat, Add	4,226.90	
			For Unit Without Roof Curb, Deduct	-1,331.01	
23 74 16 13-0234	EA		360 MBH Electric Heating Only, Self Contained Package Rooftop Unit	76,396.22	4,780.89
			For Gas Heat, Add	5,220.25	
			For Unit Without Roof Curb, Deduct	-1,331.01	
23 74 16 13-0235	EA		450 MBH Electric Heating Only, Self Contained Package Rooftop Unit	93,062.14	5,589.48
			For Gas Heat, Add	6,365.30	
			For Unit Without Roof Curb, Deduct	-1,331.01	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 70 Central HVAC Equipment****23 74 Packaged Outdoor HVAC Equipment**MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT UNIT COST DEMOLITION UNIT COST

23 74 16 13-0236	EA	540 MBH Electric Heating Only, Self Contained Package Rooftop Unit	120,703.16	7,206.55
		<i>For Gas Heat, Add</i>	8,257.05	
		<i>For Unit Without Roof Curb, Deduct</i>	-2,029.39	

23 74 23 Packaged, Outdoor, Heating-Only Makeup-Air Units (23 74)**23 74 23 13 Packaged, Direct-Fired, Outdoor, Heating-Only Makeup-Air Units (23 74 23)****23 74 23 13-0001 Make-Up Air Units (23 74 23 13)**

Note: Units are shipped fully factory assembled in one piece, prewired, prepiped, charged with refrigerant. Includes throwaway filters and start-up. Excludes crane and associated personnel. See CSI section 01 22 23 00-0967 for crane lifting equipment.

23 74 23 13-0002 Gas-Fired Electric Spark Make-Up Air Units (23 74 23 13-0001)

Note: With 2-position damper curb filter and thermostat with capillary. Excludes crane and associated personnel. See CSI section 01 22 23 00-0968 for crane lifting equipment.

23 74 23 13-0003	EA	100,000 BTU 1/2 HP, 1,200 CFM, Make-up Air Unit, Gas Fired, Electric Spark	7,822.66	468.72
		<i>For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add</i>	2,112.44	
		<i>For Equipment Base Roof Curb, Add</i>	954.40	
23 74 23 13-0004	EA	300,000 BTU 1-1/2 HP, 3,500 CFM, Make-up Air Unit, Gas Fired, Electric Spark	10,131.39	531.21
		<i>For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add</i>	2,771.21	
		<i>For Equipment Base Roof Curb, Add</i>	1,239.60	
23 74 23 13-0005	EA	500,000 BTU 2 HP, 4,000 CFM, Make-up Air Unit, Gas Fired, Electric Spark	14,133.24	624.96
		<i>For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add</i>	3,927.50	
		<i>For Equipment Base Roof Curb, Add</i>	1,735.41	
23 74 23 13-0006	EA	670,000 BTU 3 HP, 6,000 CFM, Make-up Air Unit, Gas Fired, Electric Spark	14,237.55	666.62
		<i>For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add</i>	3,935.36	
		<i>For Equipment Base Roof Curb, Add</i>	1,746.10	
23 74 23 13-0007	EA	800,000 BTU 5 HP, 7,500 CFM, Make-up Air Unit, Gas Fired, Electric Spark	19,506.48	749.95
		<i>For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add</i>	5,476.97	
		<i>For Equipment Base Roof Curb, Add</i>	2,400.81	
23 74 23 13-0008	EA	1,200,000 BTU 10 HP, 10,000 CFM, Make-up Air Unit, Gas Fired, Electric Spark	29,635.95	937.43
		<i>For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add</i>	8,422.07	
		<i>For Equipment Base Roof Curb, Add</i>	3,657.62	

23 74 23 13-0009 Electric Make-Up Air Units (23 74 23 13-0001)

Note: With 2-position damper curb filter and thermostat with capillary. Excludes crane and associated personnel. See CSI section 01 22 23 00-0968 for crane lifting equipment.

23 74 23 13-0010	EA	33 KW, 1/2 HP, 1,200 CFM Make-up Air Unit, Electric	16,300.74	468.72
		<i>For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add</i>	4,655.86	
		<i>For Equipment Base Roof Curb, Add</i>	2,014.16	
23 74 23 13-0011	EA	100 KW, 1-1/2 HP, 3,500 CFM Make-up Air Unit, Electric	23,362.85	531.21
		<i>For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add</i>	6,740.65	
		<i>For Equipment Base Roof Curb, Add</i>	2,893.54	
23 74 23 13-0012	EA	150 KW, 2 HP, 4,000 CFM Make-up Air Unit, Electric	28,961.78	624.96
		<i>For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add</i>	8,376.06	
		<i>For Equipment Base Roof Curb, Add</i>	3,588.98	
23 74 23 13-0013	EA	250 KW, 5 HP, 7,500 CFM Make-up Air Unit, Electric	37,491.27	749.95
		<i>For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add</i>	10,872.41	
		<i>For Equipment Base Roof Curb, Add</i>	4,648.91	
23 74 23 13-0014	EA	400 KW, 10 HP, 10,000 CFM Make-up Air Unit, Electric	60,731.99	937.43
		<i>For Welded Exterior Waterproof Casing, Double-Wall, With Insulation, Add</i>	17,750.88	
		<i>For Equipment Base Roof Curb, Add</i>	7,544.63	

23 75 Custom-Packaged Outdoor HVAC Equipment (23 70)**23 75 16 Custom-Packaged, Rooftop Air-Conditioning Units (23 75)****23 75 16 00-0001 Custom Rooftop Units (23 75 16)**

Note: Includes testing, balancing and commissioning of Custom-Packaged Rooftop Unit. Excludes crane and associated personnel. Excludes balancing existing diffusers and devices, reworking ductwork, new diffusers, new wiring, or new piping. See CSI section 01 22 23 00-0967 for crane lifting equipment, 26 05 83 00-0000 for reconnecting existing control wires and electrical wires.

23 75 16 00-0002	EA	15 Ton, Custom-Package Rooftop Multi-Zone Air Conditioning Unit	139,495.93	5,146.48
23 75 16 00-0003	EA	17.5 Ton, Custom-Package Rooftop Multi-Zone Air Conditioning Unit	149,283.36	5,380.41
23 75 16 00-0004	EA	20 Ton, Custom-Package Rooftop Multi-Zone Air Conditioning Unit	162,055.77	5,848.28
23 75 16 00-0005	EA	25 Ton, Custom-Package Rooftop Multi-Zone Air Conditioning Unit	211,897.98	6,082.21
23 75 16 00-0006	EA	30 Ton, Custom-Package Rooftop Multi-Zone Air Conditioning Unit	272,177.72	7,485.80
23 75 16 00-0007	EA	35 Ton, Custom-Package Rooftop Multi-Zone Air Conditioning Unit	299,333.14	8,070.63
23 75 16 00-0008	EA	40 Ton, Custom-Package Rooftop Multi-Zone Air Conditioning Unit	327,558.06	8,655.45
23 75 16 00-0009	EA	45 Ton, Custom-Package Rooftop Multi-Zone Air Conditioning Unit	360,554.05	9,357.25
23 75 16 00-0010	EA	50 Ton, Custom-Package Rooftop Multi-Zone Air Conditioning Unit	410,338.30	10,059.04

23 76 Evaporative Air-Cooling Equipment (23 70)**23 76 13 Direct Evaporative Air Coolers (23 76)****23 76 13 00-0001 Residential Side Or Down Draft Evaporative Cooling Unit (23 76 13)**

Note: Includes motor, belt and pads.

23 76 13 00-0002	EA	3,000 CFM, 1/3 HP Residential Side Or Down Draft Evaporative Cooling Unit	1,436.43	327.43
23 76 13 00-0003	EA	4,300 CFM, 1/3 HP Residential Side Or Down Draft Evaporative Cooling Unit	1,697.55	382.00



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Central HVAC Equipment			23 70
Evaporative Air-Cooling Equipment			23 76

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 76 13 00-0004	EA	4,400 CFM, 1/2 HP Residential Side Or Down Draft Evaporative Cooling Unit	2,207.50	436.58	
23 76 13 00-0005	EA	5,000 CFM, 3/4 HP Residential Side Or Down Draft Evaporative Cooling Unit	2,400.14	491.15	
23 76 13 00-0006	EA	6,000 CFM, 3/4 HP Residential Side Or Down Draft Evaporative Cooling Unit	2,759.80	545.72	
23 76 13 00-0007	EA	7,000 CFM, 1 HP Residential Side Or Down Draft Evaporative Cooling Unit	2,969.14	600.29	
23 76 13 00-0008 Industrial Side Draft/Side Discharge Evaporative Coolers (23 76 13)					
Note: Excludes motor starter, piping, power wiring and equipment rigging.					
23 76 13 00-0009	EA	7,500 CFM, 3/4 HP Industrial Side Or Down Draft Evaporative Cooling Unit	2,772.44	310.76	
23 76 13 00-0010	EA	8,500 CFM, 1 HP Industrial Side Or Down Draft Evaporative Cooling Unit	2,861.10	320.82	
23 76 13 00-0011	EA	9,500 CFM, 1 1/2 HP Industrial Side Or Down Draft Evaporative Cooling Unit	3,394.54	445.56	
23 76 13 00-0012	EA	11,375 CFM, 2 HP Industrial Side Or Down Draft Evaporative Cooling Unit	7,349.53	525.95	
23 76 13 00-0013	EA	13,020 CFM, 3 HP Industrial Side Or Down Draft Evaporative Cooling Unit	7,914.43	769.97	
23 76 13 00-0014	EA	16,267 CFM, 3 HP Industrial Side Or Down Draft Evaporative Cooling Unit	9,079.23	821.31	
23 76 13 00-0015	EA	15,438 CFM, 5 HP Industrial Side Or Down Draft Evaporative Cooling Unit	8,305.93	923.97	
23 76 13 00-0016	EA	19,286 CFM, 5 HP Industrial Side Or Down Draft Evaporative Cooling Unit	9,840.06	1,154.96	
23 76 13 00-0017	EA	17,672 CFM, 7-1/2 HP Industrial Side Or Down Draft Evaporative Cooling Unit	9,808.16	1,509.76	
23 76 13 00-0018	EA	22,077 CFM, 7-1/2 HP Industrial Side Or Down Draft Evaporative Cooling Unit	10,945.71	1,539.95	
23 76 13 00-0019	EA	24,301 CFM, 10 HP Industrial Side Or Down Draft Evaporative Cooling Unit	11,510.04	1,711.09	
23 76 13 00-0020	EA	30,000 CFM, 20 HP Industrial Side Or Down Draft Evaporative Cooling Unit	15,367.19	2,673.55	
23 76 13 00-0021	EA	35,000 CFM, 20 HP Industrial Side Or Down Draft Evaporative Cooling Unit	17,269.69	2,789.77	
23 76 13 00-0022	EA	40,000 CFM, 30 HP Industrial Side Or Down Draft Evaporative Cooling Unit	19,193.34	2,916.56	
23 80 Decentralized Unitary HVAC Equipment (23)					
Note: Where required, mechanical equipment excludes electrical connection, disconnect, or starter unless title states otherwise. See CSI section 23 05 29 00-0000 for hangers and supports, 26 05 19 16-0011 for electrical connection and termination, 26 05 83 00-0130 for terminations, 26 28 16 16-0001 for disconnect.					
23 81 Decentralized Unitary HVAC Equipment (23 80)					
23 81 13 Packaged Terminal Air-Conditioners (23 81)					
Note: Units consists of fresh air intake, throwaway filters, exhaust, automatic thermostat, hermetically sealed compressor with 5 year guarantee, "sleeve-type" construction, condensing fan motor enclosed, fan to be aluminum, three wire ground cord, multi speed fan, exposed steel parts to be phosphate bonderized with baked enamel finish and copper tubes mechanically expanded into aluminum of evaporator and condensing coils. Includes equipment rigging. Efficiency Rating (ER) not less than 9.					
23 81 13 11 Packaged Terminal Air-Conditioners, Through-Wall Units (23 81 13)					
23 81 13 11-0001 Packaged Terminal Air-Conditioners (23 81 13 11)					
23 81 13 11-0002 Electric Heat, Heating And Cooling, Packaged Terminal Air-Conditioners (23 81 13 11-0001)					
23 81 13 11-0003	EA	7,200 BTU, 13 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,017.34	204.65	
		For >35 To 70, Deduct	-48.24		
		For >70 To 100, Deduct	-80.40		
		For >100, Deduct	-112.56		
23 81 13 11-0004	EA	9,400 BTU, 12.1 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,109.77	237.42	
		For >35 To 70, Deduct	-49.06		
		For >70 To 100, Deduct	-81.77		
		For >100, Deduct	-114.48		
23 81 13 11-0005	EA	11,800 BTU, 11.6 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,232.73	253.02	
		For >35 To 70, Deduct	-51.78		
		For >70 To 100, Deduct	-86.30		
		For >100, Deduct	-120.82		
23 81 13 11-0006	EA	14,500 BTU, 10.4 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Packaged Terminal Air-Conditioner.....	2,413.11	271.98	
		For >35 To 70, Deduct	-56.08		
		For >70 To 100, Deduct	-93.47		
		For >100, Deduct	-130.86		
23 81 13 11-0007 Heat Pump, Heating And Cooling, Packaged Terminal Air-Conditioners (23 81 13 11-0001)					
23 81 13 11-0008	EA	7,200 BTU, 13 EER, 230/208 Volt, Heat Pump, Heating And Cooling, Packaged Terminal Air-Conditioner	2,140.19	210.67	
		For >35 To 70, Deduct	-51.59		
		For >70 To 100, Deduct	-85.98		
		For >100, Deduct	-120.37		
23 81 13 11-0009	EA	9,400 BTU, 12.1 EER, 230/208 Volt, Heat Pump, Heating And Cooling, Packaged Terminal Air-Conditioner	2,255.19	237.42	
		For >35 To 70, Deduct	-53.43		
		For >70 To 100, Deduct	-89.04		
		For >100, Deduct	-124.66		
23 81 13 11-0010	EA	11,800 BTU, 11.6 EER, 230/208 Volt, Heat Pump, Heating And Cooling, Packaged Terminal Air-Conditioner	2,338.11	253.02	
		For >35 To 70, Deduct	-54.94		
		For >70 To 100, Deduct	-91.57		
		For >100, Deduct	-128.20		
23 81 13 11-0011	EA	14,500 BTU, 10.4 EER, 230/208 Volt, Heat Pump, Heating And Cooling, Packaged Terminal Air-Conditioner	2,552.21	271.98	
		For >35 To 70, Deduct	-60.25		
		For >70 To 100, Deduct	-100.42		
		For >100, Deduct	-140.59		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 81 13 11-0012		Packaged Terminal Air-Conditioners, Through-Wall Unit Sleeve (23 81 13 11) Note: Includes wall case, exterior grille, weather panel and steel closure panels. Includes bolts, nuts, washers, caulking and lintel supports. Not for use with new A/C units where wall sleeve is provided. Excludes cutting opening for unit or patching masonry or concrete.		
23 81 13 11-0013	EA	Up To 10,000 BTU Unit, Thru Wall A/C Sleeve	92.71	
23 81 13 11-0014	EA	>10,000 To 20,000 BTU Unit, Thru Wall A/C Sleeve	104.53	
23 81 13 11-0015	EA	>20,000 To 30,000 BTU Unit, Thru Wall A/C Sleeve	116.33	

23 81 13 11-0016		Removal And Reinstallation Of Packaged Terminal Air-Conditioners, Through-Wall Units (23 81 13 11) Note: Includes storage and cleaning.		
23 81 13 11-0017	EA	Removal And Reinstallation Of Packaged Terminal Air-Conditioners, Through-Wall Units	218.29	

23 81 13 12 Packaged Terminal Air-Conditioners, Freestanding Units (23 81 13)

23 81 13 12-0001		Portable Air Conditioning Unit (23 81 13 12)		
23 81 13 12-0002	EA	11,800 BTU/H, 115 Volt, Portable Air Conditioning Unit (MovinCool Office Pro 12)	5,173.34	
		For HDK 12", 2X2 Metal, With Flex, Add	226.65	
		For C PLEN-OP12/18- LAY84270-008A, Add	534.89	
23 81 13 12-0003	EA	16,800 BTU/H, 115 Volt, Portable Air Conditioning Unit (MovinCool Office Pro 18)	5,723.98	
		For HDK 12", 2X2 Metal, With Flex, Add	226.65	
		For C PLEN-OP12/18- LAY84270-008A, Add	534.89	
23 81 13 12-0004	EA	24,000 BTU/H, 115 Volt, Portable Air Conditioning Unit (MovinCool Office Pro 24)	6,608.38	
		For HDK 12", 2X2 Metal, With Flex, Add	226.65	
		For C PLEN-OP12/18- LAY84270-008A, Add	534.89	

23 81 13 13 Packaged Terminal Air-Conditioners, Outdoor, Wall-Mounted Units (23 81 13)

23 81 13 13-0001		Single Package Vertical Wall Cooling Unit (23 81 13 13) Note: Air-to-air type with electric heat. Includes throwaway filters. Wall units are wired for 230/208 Volt, 1 phase, 60 HZ. With solid state electronic controls, thermostat, cord and NEMA plug. Units are shipped fully factory assembled in one piece, prewired, prepiped and charged with refrigerant, complete with push button controls, insulated steel cabinet, with wall sleeve and outdoor grille and stainless steel drain pan. Excludes crane and associated personnel. See CSI section 01 22 23 00-0968 for crane lifting equipment.		
23 81 13 13-0002	EA	1/2 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	5,010.84	248.37
23 81 13 13-0003	EA	1 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	7,589.13	260.19
23 81 13 13-0004	EA	1-1/2 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	9,931.04	272.03
23 81 13 13-0005	EA	2 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	11,422.49	295.68
23 81 13 13-0006	EA	2-1/2 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	14,329.41	342.98
23 81 13 13-0007	EA	3 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	15,369.08	425.77
23 81 13 13-0008	EA	3-1/2 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	17,014.68	473.08
23 81 13 13-0009	EA	4 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	18,736.30	532.22
23 81 13 13-0010	EA	5 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	21,077.41	638.66
23 81 13 13-0011	EA	7-1/2 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	27,249.35	792.41
23 81 13 13-0012	EA	10 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	32,494.07	1,064.44
23 81 13 13-0013	EA	15 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	45,577.31	1,300.98
23 81 13 13-0014	EA	20 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	52,503.89	1,549.35
23 81 13 13-0015	EA	25 Ton Single Package Cooling, Vertical Wall Unit, Air To Air Type With Electric Heat	62,763.41	1,738.58

23 81 16 Room Air-Conditioners (23 81)

Note: Units consists of fresh air intake, throwaway filters, exhaust, automatic thermostat, hermetically sealed compressor with 5 year guarantee, "sleeve-type" construction, condensing fan motor enclosed, fan to be aluminum, three wire ground cord, multi speed fan, exposed steel parts to be phosphate bonderized with baked enamel finish and copper tubes mechanically expanded into aluminum of evaporator and condensing coils. Includes equipment rigging. Efficiency Rating (ER) not less than 9.

23 81 16 00-0001		Window Unit, Room Air-Conditioners (23 81 16)		
23 81 16 00-0002		Cooling Only, Window Unit, Room Air-Conditioners (23 81 16 00-0001)		
23 81 16 00-0003		Cooling Only, Window Unit, Room Air-Conditioners (Frigidaire) (23 81 16 00-0002)		
23 81 16 00-0004	EA	5,000 BTU, 11.2 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE0533Q1)	496.91	114.60
		For >10 To 50, Deduct	-13.39	
		For >50 To 75, Deduct	-18.74	
		For >75 To 100, Deduct	-26.77	
		For >100, Deduct	-32.13	
23 81 16 00-0005	EA	6,000 BTU, 11.2 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE0633Q1)	523.82	114.60
		For >10 To 50, Deduct	-14.73	
		For >50 To 75, Deduct	-20.62	
		For >75 To 100, Deduct	-29.46	
		For >100, Deduct	-35.35	
23 81 16 00-0006	EA	8,000 BTU, 11.2 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE0833U1)	591.09	114.60
		For >10 To 50, Deduct	-18.09	
		For >50 To 75, Deduct	-25.33	
		For >75 To 100, Deduct	-36.19	
		For >100, Deduct	-43.43	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 16 00-0007	EA		10,000 BTU, 11.3 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE1033U1).....	685.26	114.60
			For >10 To 50, Deduct	-22.80	
			For >50 To 75, Deduct	-31.92	
			For >75 To 100, Deduct	-45.61	
			For >100, Deduct	-54.73	
23 81 16 00-0008	EA		12,000 BTU, 11.3 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE1233Q1).....	806.33	114.60
			For >10 To 50, Deduct	-28.86	
			For >50 To 75, Deduct	-40.40	
			For >75 To 100, Deduct	-57.71	
			For >100, Deduct	-69.26	
23 81 16 00-0009	EA		15,100 BTU, 11.2 EER, 115 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE1533Q1).....	940.86	114.60
			For >10 To 50, Deduct	-35.58	
			For >50 To 75, Deduct	-49.82	
			For >75 To 100, Deduct	-71.17	
			For >100, Deduct	-85.40	
23 81 16 00-0010	EA		8,000 BTU, 10.9 EER, 115 Volt, Cooling Only, Casement Window Unit, Room Air-Conditioner (Frigidaire FFRS0833Q1).....	887.05	114.60
			For >10 To 50, Deduct	-32.89	
			For >50 To 75, Deduct	-46.05	
			For >75 To 100, Deduct	-65.79	
			For >100, Deduct	-78.94	
23 81 16 00-0011	EA		10,000 BTU, 9.5 EER, 115 Volt, Cooling Only, Casement Window Unit, Room Air-Conditioner (Frigidaire FFRS1022Q1).....	954.32	114.60
			For >10 To 50, Deduct	-36.26	
			For >50 To 75, Deduct	-50.76	
			For >75 To 100, Deduct	-72.51	
			For >100, Deduct	-87.01	
23 81 16 00-0012	EA		12,000 BTU, 9.5 EER, 115 Volt, Cooling Only, Casement Window Unit, Room Air-Conditioner (Frigidaire FFRS1222Q1).....	1,008.13	114.60
			For >10 To 50, Deduct	-38.95	
			For >50 To 75, Deduct	-54.53	
			For >75 To 100, Deduct	-77.89	
			For >100, Deduct	-93.47	
23 81 16 00-0013	EA		18,500 BTU, 11.2 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE1833Q2).....	1,061.94	114.60
			For >10 To 50, Deduct	-41.64	
			For >50 To 75, Deduct	-58.29	
			For >75 To 100, Deduct	-83.27	
			For >100, Deduct	-99.93	
23 81 16 00-0014	EA		22,000 BTU, 9.8 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE2233S2).....	1,169.56	114.60
			For >10 To 50, Deduct	-47.02	
			For >50 To 75, Deduct	-65.83	
			For >75 To 100, Deduct	-94.04	
			For >100, Deduct	-112.84	
23 81 16 00-0015	EA		25,000 BTU, 9.8 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRE2533S2).....	1,183.02	114.60
			For >10 To 50, Deduct	-47.69	
			For >50 To 75, Deduct	-66.77	
			For >75 To 100, Deduct	-95.38	
			For >100, Deduct	-114.46	
23 81 16 00-0016	EA		28,000 BTU, 9.0 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Frigidaire FFRA2822R2).....	1,905.60	114.60
			For >10 To 50, Deduct	-83.82	
			For >50 To 75, Deduct	-117.35	
			For >75 To 100, Deduct	-167.64	
			For >100, Deduct	-201.17	
23 81 16 00-0017			Cooling Only, Window Unit, Room Air-Conditioners (Friedrich Kuhl) (23 81 16 00-0002)		
23 81 16 00-0018	EA		8,000 BTU, 12.2 EER, 110 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SS08N10C).....	2,022.45	114.60
23 81 16 00-0019	EA		10,000 BTU, 12.2 EER, 110 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SS10N10C).....	2,221.91	114.60
23 81 16 00-0020	EA		11,900 BTU, 12.2 EER, 110 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SS12N10C).....	2,312.57	114.60
23 81 16 00-0021	EA		12,000 BTU, 12.2 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SS12N30C).....	2,348.83	114.60
23 81 16 00-0022	EA		20,000 BTU, 10.4 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SM18N30C).....	2,675.21	114.60
23 81 16 00-0023	EA		24,000 BTU, 10.4 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SL24N30C).....	3,491.15	114.60
23 81 16 00-0024	EA		28,000 BTU, 10.0 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SL28N30C).....	3,763.13	114.60
23 81 16 00-0025	EA		36,000 BTU, 9.0 EER, 230/208 Volt, Cooling Only, Window Unit, Room Air-Conditioner (Friedrich SL36N30B).....	4,125.77	114.60
23 81 16 00-0026			Heating And Cooling, Window Unit, Room Air-Conditioners (23 81 16 00-0001)		
23 81 16 00-0027			Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioners (Frigidaire) (23 81 16 00-0026)		
23 81 16 00-0028	EA		8,000 BTU, 9.8 EER, 115 Volt, Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioner (Frigidaire FFRH0822R1).....	1,008.13	114.60
			For >10 To 50, Deduct	-38.95	
			For >50 To 75, Deduct	-54.53	
			For >75 To 100, Deduct	-77.89	
			For >100, Deduct	-93.47	
23 81 16 00-0029	EA		12,000 BTU, 10.9 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioner (Frigidaire FFRH1222R2).....	1,156.11	114.60
			For >10 To 50, Deduct	-46.35	
			For >50 To 75, Deduct	-64.88	
			For >75 To 100, Deduct	-92.69	
			For >100, Deduct	-111.23	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 16 00-0030	EA		18,500 BTU, 10.7 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioner (Frigidaire FFRH1822R2).....	1,236.83	114.60
			For >10 To 50, Deduct.....	-50.38	
			For >50 To 75, Deduct.....	-70.53	
			For >75 To 100, Deduct.....	-100.76	
			For >100, Deduct.....	-120.92	
23 81 16 00-0031	EA		25,000 BTU, 9.4 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioner (Frigidaire FFRH2522R2).....	1,532.80	114.60
			For >10 To 50, Deduct.....	-65.18	
			For >50 To 75, Deduct.....	-91.25	
			For >75 To 100, Deduct.....	-130.36	
			For >100, Deduct.....	-156.43	
23 81 16 00-0032			Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioners (Friedrich) (23 81 16 00-0026)		
23 81 16 00-0033	EA		12,000 BTU, 11.3 EER, 230/208 Volt, Electric Heat, Heating And Cooling, Window Unit, Room Air-Conditioner (Friedrich ES12N33B).....	2,439.49	114.60
23 81 16 00-0034			Accessories (23 81 16 00-0001)		
23 81 16 00-0035	SET		Aluminum Air Conditioner Unit Frame And Bracket Assembly.....	598.35	61.30
23 81 16 00-0036			Removal And Reinstallation Of Room Air-Conditioners (23 81 16)		
			Note: Includes storage and cleaning.		
23 81 16 00-0037	EA		Removal And Reinstallation Of Room Air-Conditioning Unit In Window Lower Sash.....	136.43	
23 81 16 00-0038	EA		Removal And Reinstallation Of Room Air-Conditioning Unit In Window Upper Sash.....	294.17	
23 81 16 00-0039			Through-The-Wall, Room Air-Conditioners (23 81 16)		
			Note: Base unit excludes wall sleeve.		
23 81 16 00-0040			Cooling Only, Through-The-Wall, Room Air-Conditioners (23 81 16 00-0039)		
23 81 16 00-0041			Cooling Only, Through-The-Wall, Room Air-Conditioners (Friedrich) (23 81 16 00-0040)		
23 81 16 00-0042	EA		8,000 BTU, 10.7 EER, 115 Volt, Cooling Only, Through-The-Wall, Room Air-Conditioner (Friedrich WS08D10A).....	1,521.81	81.86
			For >10 To 50, Deduct.....	-67.90	
			For >50 To 75, Deduct.....	-95.07	
			For >75 To 100, Deduct.....	-135.81	
			For >100, Deduct.....	-162.97	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add.....	273.27	
23 81 16 00-0043	EA		9,800 BTU, 10.7 EER, 115 Volt, Cooling Only, Through-The-Wall, Room Air-Conditioner (Friedrich WS10D10B).....	1,648.73	81.86
			For >10 To 50, Deduct.....	-74.25	
			For >50 To 75, Deduct.....	-103.95	
			For >75 To 100, Deduct.....	-148.50	
			For >100, Deduct.....	-178.20	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add.....	273.27	
23 81 16 00-0044	EA		12,000 BTU, 9.8 EER, 115 Volt, Cooling Only, Through-The-Wall, Room Air-Conditioner (Friedrich WS12D10A).....	1,884.45	81.86
			For >10 To 50, Deduct.....	-86.04	
			For >50 To 75, Deduct.....	-120.45	
			For >75 To 100, Deduct.....	-172.07	
			For >100, Deduct.....	-206.49	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add.....	273.27	
23 81 16 00-0045	EA		10,000 BTU, 10.7 EER, 230/208 Volt, Cooling Only, Through-The-Wall, Room Air-Conditioner (Friedrich WS10D30A).....	1,648.73	81.86
			For >10 To 50, Deduct.....	-74.25	
			For >50 To 75, Deduct.....	-103.95	
			For >75 To 100, Deduct.....	-148.50	
			For >100, Deduct.....	-178.20	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add.....	273.27	
23 81 16 00-0046	EA		12,000 BTU, 9.8 EER, 230/208 Volt, Cooling Only, Through-The-Wall, Room Air-Conditioner (Friedrich WS12D30A).....	1,884.45	81.86
			For >10 To 50, Deduct.....	-86.04	
			For >50 To 75, Deduct.....	-120.45	
			For >75 To 100, Deduct.....	-172.07	
			For >100, Deduct.....	-206.49	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add.....	273.27	
23 81 16 00-0047			Heating And Cooling, Through-The-Wall, Room Air-Conditioners (23 81 16 00-0039)		
23 81 16 00-0048			Electric Heat, Heating And Cooling, Through-The-Wall, Room Air-Conditioners (Friedrich) (23 81 16 00-0047)		
23 81 16 00-0049	EA		10,000 BTU, 9.8 EER, 230/208 Volt, Heating And Cooling, Through-The-Wall, Room Air-Conditioner (Friedrich WE10D33).....	1,938.84	81.86
			For >10 To 50, Deduct.....	-88.76	
			For >50 To 75, Deduct.....	-124.26	
			For >75 To 100, Deduct.....	-177.51	
			For >100, Deduct.....	-213.01	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add.....	273.27	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Decentralized Unitary HVAC Equipment			23 80
Decentralized Unitary HVAC Equipment			23 81



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 16 00-0050	EA		12,000 BTU, 9.8 EER, 230/208 Volt, Heating And Cooling, Through-The-Wall, Room Air-Conditioner (Friedrich WE12D33).....	2,083.90	81.86
			For >10 To 50, Deduct.....	-96.01	
			For >50 To 75, Deduct.....	-134.41	
			For >75 To 100, Deduct.....	-192.02	
			For >100, Deduct.....	-230.42	
			For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add.....	273.27	
23 81 23 Computer-Room Air-Conditioners (23 81)					
Note: Includes equipment rigging. Indoor units include filters.					
23 81 23 12 Large-Capacity, Computer-Room Air-Conditioners, Floor Mounted Units (23 81)					
23)					
23 81 23 12-0001			Floor Mounted Air Cooled Direct Expansion Type (23 81 23 12)		
Note: Includes compressor sequence switch, mode alert monitor, non-locking disconnect switch, firestat, infrared humidifier, auto flush on humidifier, two liquid sensors, floor stand, and outdoor air cooled condenser complete with fan speed control. Excludes precharged copper pipe.					
23 81 23 12-0002	EA		3 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type.....	37,373.70	2,329.58
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add.....	4,234.44	
23 81 23 12-0003	EA		5 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type.....	41,251.46	2,547.97
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add.....	4,676.05	
23 81 23 12-0004	EA		6 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type.....	57,201.42	2,911.97
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add.....	6,608.79	
23 81 23 12-0005	EA		8 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type.....	62,626.17	3,093.97
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add.....	7,253.05	
23 81 23 12-0006	EA		10 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type.....	68,050.92	3,275.97
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add.....	7,897.30	
23 81 23 12-0007	EA		16 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type.....	76,196.69	3,931.15
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add.....	8,783.12	
23 81 23 12-0008	EA		20 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type.....	86,113.95	4,367.95
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add.....	9,952.16	
23 81 23 12-0009	EA		22 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type.....	90,102.14	4,512.02
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add.....	10,419.63	
23 81 23 12-0010	EA		24 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type.....	98,134.34	4,659.15
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add.....	11,392.24	
23 81 23 12-0011	EA		30 Ton Air Cooled Computer Room Air Conditioner, Direct Expansion Type.....	106,117.94	5,241.54
			Note: Includes interior unit and remote condenser. Excludes piping.		
			For Liebert Unit, Add.....	12,290.24	
23 81 23 12-0012 Floor Mounted Chilled Water Type (23 81 23 12)					
Note: Includes mode alert monitor, non-locking disconnect switch, firestat, infrared humidifier, auto flush on humidifier, two liquid sensors, floor stand. Excludes chilled water source. See CSI section 23 81 23 12-0020 for chilled water source.					
23 81 23 12-0013	EA		3 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source.....	22,338.86	1,596.24
			For Liebert Unit, Add.....	2,526.32	
23 81 23 12-0014	EA		5 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source.....	24,007.27	1,768.13
			For Liebert Unit, Add.....	2,706.22	
23 81 23 12-0015	EA		12 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source.....	29,706.95	2,693.13
			For Liebert Unit, Add.....	3,264.52	
23 81 23 12-0016	EA		16 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source.....	31,056.36	2,728.61
			For Liebert Unit, Add.....	3,427.33	
23 81 23 12-0017	EA		20 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source.....	32,250.56	2,837.75
			For Liebert Unit, Add.....	3,556.54	
23 81 23 12-0018	EA		22 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source.....	33,013.31	3,110.61
			For Liebert Unit, Add.....	3,608.23	
23 81 23 12-0019	EA		31 Ton Computer Room Air Conditioner, Chilled Water Type, Excludes Water Source.....	35,021.99	3,383.47
			For Liebert Unit, Add.....	3,814.97	
23 81 23 12-0020 Floor Mounted Water Source (23 81 23 12)					
Note: Includes mode alert monitor, non-locking disconnect switch, firestat, infrared humidifier, auto flush on humidifier, two liquid sensors, floor stand. Excludes water source.					
23 81 23 12-0021	EA		3 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit.....	17,309.87	1,455.98
			For Liebert Unit, Add.....	1,891.74	
23 81 23 12-0022	EA		5 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit.....	19,049.02	1,528.78
			For Liebert Unit, Add.....	2,095.47	
23 81 23 12-0023	EA		6 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit.....	24,686.99	1,601.59
			For Liebert Unit, Add.....	2,786.68	
23 81 23 12-0024	EA		8 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit.....	26,605.15	1,747.18
			For Liebert Unit, Add.....	2,997.69	
23 81 23 12-0025	EA		9 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit.....	27,995.03	1,820.20
			For Liebert Unit, Add.....	3,157.76	
23 81 23 12-0026	EA		10 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit.....	29,384.91	1,892.78
			For Liebert Unit, Add.....	3,317.83	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 23 12-0027	EA	12 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... <i>For Liebert Unit, Add</i>	30,539.79 3,434.24	2,038.38
23 81 23 12-0028	EA	16 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... <i>For Liebert Unit, Add</i>	31,886.43 3,579.76	2,183.97
23 81 23 12-0029	EA	20 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... <i>For Liebert Unit, Add</i>	32,842.25 3,673.54	2,329.58
23 81 23 12-0030	EA	25 Ton Chilled Water Source For Computer Room Air Conditioner, Chilled Water Unit..... <i>For Liebert Unit, Add</i>	37,506.55 4,171.54	2,766.37
23 81 23 12-0031 Floor Mounted Glycol System Type (23 81 23 12)				
Note: Includes mode alert monitor, non-locking disconnect switch, firestat, infrared humidifier, auto flush on humidifier, two liquitact sensors, floor stand. Excludes chilled water source. See CSI section 23 81 23 12-0020 for water source.				
23 81 23 12-0032	EA	3 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	45,459.33 16,230.01 8,700.00	1,596.24
23 81 23 12-0033	EA	5 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	48,912.74 17,473.09 8,700.00	1,768.13
23 81 23 12-0034	EA	6 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	64,019.59 22,803.05 8,700.00	1,980.97
23 81 23 12-0035	EA	8 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	74,078.95 26,366.39 8,700.00	2,193.80
23 81 23 12-0036	EA	9 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	78,267.26 27,853.59 8,700.00	2,300.21
23 81 23 12-0037	EA	10 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	83,590.22 29,737.90 8,700.00	2,406.63
23 81 23 12-0038	EA	12 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	89,267.49 31,746.23 8,700.00	2,513.59
23 81 23 12-0039	EA	15 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	95,862.15 34,075.64 8,700.00	2,608.55
23 81 23 12-0040	EA	16 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	102,095.18 36,281.76 21,500.00	2,728.61
			<i>For Remote Pump Control Panel, Add</i>	
			<i>For Integrated Fluid Econocoil (Economizer Functionality), Add</i>	
23 81 23 12-0041	EA	20 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	112,014.38 39,774.77 21,500.00	2,837.75
			<i>For Remote Pump Control Panel, Add</i>	
			<i>For Integrated Fluid Econocoil (Economizer Functionality), Add</i>	
23 81 23 12-0042	EA	22 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	116,091.97 41,254.31 21,500.00	3,110.61
			<i>For Remote Pump Control Panel, Add</i>	
			<i>For Integrated Fluid Econocoil (Economizer Functionality), Add</i>	
23 81 23 12-0043	EA	30 Ton Computer Room Air Conditioner, Glycol System Type <i>For Drycooler, Add</i> <i>Note: Installation is externally mounted.</i>	141,593.76 50,233.15 21,500.00	3,383.47
			<i>For Remote Pump Control Panel, Add</i>	
			<i>For Integrated Fluid Econocoil (Economizer Functionality), Add</i>	
23 81 23 12-0044 Removal And Reinstallation Of Computer Room Unit (23 81 23 12)				
Note: Includes storage and cleaning. Excludes main mechanical piping. Reconnection of existing valves are included.				
23 81 23 12-0045	EA	Removal And Reinstallation Up To 6 Ton, Floor Mounted Chilled Water Computer Room Unit	2,182.89	
23 81 23 12-0046	EA	Removal And Reinstallation Up To 6 Ton Direct Expansion Computer Room Unit	1,819.07	

23 81 23 13 Computer-Room Air-Conditioners, Ceiling Mounted Units (23 81 23)**23 81 23 13-0001 Ceiling Mounted Packaged Computer Room Air Conditioner** (23 81 23 13)

Note: Includes compressor sequence switch, mode alert monitor, non-locking disconnect switch, firestat, infrared humidifier, auto flush on humidifier, two liquitact sensors, floor stand, and outdoor air cooled condenser complete with fan speed control.



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Decentralized Unitary HVAC Equipment			23 80
Decentralized Unitary HVAC Equipment			23 81

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 23 13-0002	EA	1	Ton Packaged Computer Room Air Conditioner, Ceiling Mounted, Split System <i>For Liebert Unit, Add</i>	14,839.97 1,725.37	691.98
23 81 23 13-0003	EA	1.5	Ton Packaged Computer Room Air Conditioner, Ceiling Mounted, Split System <i>For Liebert Unit, Add</i>	16,404.58 1,894.63	831.02
23 81 23 13-0004	EA	2	Ton Packaged Computer Room Air Conditioner, Ceiling Mounted, Split System <i>For Liebert Unit, Add</i>	18,731.26 2,146.51	1,040.04
23 81 23 13-0005	EA	3	Ton Packaged Computer Room Air Conditioner, Ceiling Mounted, Split System <i>For Liebert Unit, Add</i>	23,017.98 2,649.86	1,213.36
23 81 23 13-0006	EA	5	Ton Packaged Computer Room Air Conditioner, Ceiling Mounted, Split System <i>For Liebert Unit, Add</i>	31,229.88 3,656.58	1,318.79
23 81 23 13-0007			Horizontal Indoor Single Package Cooling Unit (23 81 23 13) Note: Carrier 50AH With indoor scroll compressor, plenum mounted.		
23 81 23 13-0008	EA	2	Ton Horizontal Indoor Single-Package Cooling Unit, 800 CFM Nominal.....	20,314.30	654.86
23 81 23 13-0009	EA	3	Ton Horizontal Indoor Single-Package Cooling Unit, 1,200 CFM Nominal.....	23,801.06	818.58
23 81 23 13-0010	EA	4	Ton Horizontal Indoor Single-Package Cooling Unit, 1,600 CFM Nominal.....	27,709.86	982.29
23 81 23 13-0011	EA	5	Ton Horizontal Indoor Single-Package Cooling Unit, 2,000 CFM Nominal.....	32,261.84	1,091.44
23 81 26			Split-System Air-Conditioners (23 81)		
23 81 26 13			Small-Capacity Split-System Air-Conditioners (23 81 26)		
23 81 26 13-0001			Split System A/C Unit (23 81 26 13) See CSI section 23 23 16 00-0001 for piping.		
23 81 26 13-0002			Ductless Split System Air Conditioners (23 81 26 13-0001) Note: Excludes refrigerant piping, electrical, and pad. Panasonic units or equal. See CSI section 23 81 49 00-0025 for ductless heat pumps.		
23 81 26 13-0003			Wall Mounted Ductless Split System Air Conditioners (23 81 26 13-0002)		
23 81 26 13-0004	EA		9,000 BTU, 16 SEER, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	2,169.51	360.17
23 81 26 13-0005	EA		11,900 BTU, 17 SEER, Wall Mounted Ductless Split System Air Conditioner..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	2,349.21	392.92
23 81 26 13-0006	EA		17,500 BTU, 20 SEER, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	2,935.05	436.58
23 81 26 13-0007	EA		24,200 BTU, 17 SEER, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,260.55	480.24
23 81 26 13-0008	EA		25,200 BTU, 14.9 SEER, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,014.94	523.89
23 81 26 13-0009	EA		29,800 BTU, 15 SEER, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,836.47	545.72
23 81 26 13-0010	EA		31,400 BTU, 15.9 SEER, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,403.11	581.73
23 81 26 13-0011			Dual and Tri Zone Wall Mounted Ductless Split System Air Conditioners (23 81 26 13-0002) Note: Use this section only when matching indoor and outdoor capacity units are not used.		
23 81 26 13-0012	EA		7,500 BTU Indoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit and wireless thermostat.	935.55	174.63
23 81 26 13-0013	EA		9,000 BTU Indoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit and wireless thermostat.	988.87	185.55
23 81 26 13-0014	EA		11,900 BTU Indoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit and wireless thermostat.	1,043.09	196.46
23 81 26 13-0015	EA		17,500 BTU Indoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit and wireless thermostat.	1,179.01	207.38
23 81 26 13-0016	EA		24,200 BTU Indoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes indoor unit and wireless thermostat.	1,261.06	218.29
23 81 26 13-0017	EA		19,700 BTU, 16.5 SEER, Outdoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes outdoor unit and refrigerant charge.	2,583.93	261.95
23 81 26 13-0018	EA		25,400 BTU, 16.2 SEER, Outdoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes outdoor unit and refrigerant charge.	2,858.45	283.77
23 81 26 13-0019	EA		30,600 BTU, 17.6 SEER, Outdoor Unit, Wall Mounted Ductless Split System Air Conditioners..... Note: Includes outdoor unit and refrigerant charge.	4,515.47	305.60
23 81 26 13-0020			Suspended Ceiling Mounted Ductless Split System Air Conditioners (23 81 26 13-0002) Note: Excludes hangers.		
23 81 26 13-0021	EA		24,400 BTU, 14.5 SEER, Ceiling Suspended Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,368.05	523.89
23 81 26 13-0022	EA		31,200 BTU, 15.1 SEER, Ceiling Suspended Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,541.99	625.40
23 81 26 13-0023	EA		39,000 BTU, 15.6 SEER, Ceiling Suspended Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	7,980.22	654.86
23 81 26 13-0024			Recessed Ceiling Mounted Ductless Split System Air Conditioners (23 81 26 13-0002) Note: Excludes hangers.		
23 81 26 13-0025	EA		11,900 BTU, 16 SEER, Ceiling Recessed Ductless Split System Air Conditioners..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,298.63	436.58

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 26 13-0026 EA 17,500 BTU, 16 SEER, Ceiling Recessed Ductless Split System Air Conditioners Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,844.98	480.24
23 81 26 13-0027 EA 24,800 BTU, 14.1 SEER, Ceiling Recessed Ductless Split System Air Conditioners Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,342.53	567.55
23 81 26 13-0028 EA 32,600 BTU, 14.6 SEER, Ceiling Recessed Ductless Split System Air Conditioners Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,182.90	625.40
23 81 26 13-0029 EA 39,500 BTU, 14.6 SEER, Ceiling Recessed Ductless Split System Air Conditioners Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	7,800.67	654.86
23 81 26 13-0030 Ductless Split System Accessories (23 81 26 13-0002)		
23 81 26 13-0031 LF 3" Line Set Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers	13.77	1.56
23 81 26 13-0032 LF 4" Line Set Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers	17.85	1.72
23 81 26 13-0033 LF 6" Line Set Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers	22.35	1.89
23 81 26 13-0034 EA 3" Union Coupling, Rigid Polyvinyl Chloride (PVC) Line Set Covers	22.95	2.93
23 81 26 13-0035 EA 4" Union Coupling, Rigid Polyvinyl Chloride (PVC) Line Set Covers	40.28	3.22
23 81 26 13-0036 EA 6" Union Coupling, Rigid Polyvinyl Chloride (PVC) Line Set Covers	45.95	3.55
23 81 26 13-0037 EA 3" 90 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers	57.67	5.87
23 81 26 13-0038 EA 4" 90 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers	97.00	6.45
23 81 26 13-0039 EA 6" 90 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers	108.35	7.10
23 81 26 13-0040 EA 3" 90 Degree Long Radius Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers	77.63	6.26
23 81 26 13-0041 EA 4" 90 Degree Long Radius Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers	91.27	6.89
23 81 26 13-0042 EA 6" 90 Degree Long Radius Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers	142.65	7.57
23 81 26 13-0043 EA 3" 45 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers	57.67	5.87
23 81 26 13-0044 EA 4" 45 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers	97.00	6.45
23 81 26 13-0045 EA 6" 45 Degree Elbow, Rigid Polyvinyl Chloride (PVC) Line Set Covers	108.35	7.10
23 81 26 13-0046 EA 3" Wall Penetration Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers	74.21	9.78
23 81 26 13-0047 EA 4" Wall Penetration Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers	110.04	10.75
23 81 26 13-0048 EA 6" Wall Penetration Cover, Rigid Polyvinyl Chloride (PVC) Line Set Covers	132.09	11.83
23 81 26 13-0049 EA 2-1/2" Wall Sleeve, Rigid Polyvinyl Chloride (PVC) Line Set Covers	43.47	1.95
23 81 26 13-0050 EA 3" x 20" Flexible Joint, Rigid Polyvinyl Chloride (PVC) Line Set Covers	45.93	5.87
23 81 26 13-0051 EA 4" x 20" Flexible Joint, Rigid Polyvinyl Chloride (PVC) Line Set Covers	75.87	6.45
23 81 26 13-0052 EA 3" Duct End Termination, Rigid Polyvinyl Chloride (PVC) Line Set Covers	41.23	5.87
23 81 26 13-0053 EA 4" Duct End Termination, Rigid Polyvinyl Chloride (PVC) Line Set Covers	57.09	6.45
23 81 26 13-0054 EA 6" Duct End Termination, Rigid Polyvinyl Chloride (PVC) Line Set Covers	61.39	7.10
23 81 26 13-0055 EA 4" T Joint, Rigid Polyvinyl Chloride (PVC) Line Set Covers	209.15	7.82
23 81 26 13-0056 EA 6" T Joint, Rigid Polyvinyl Chloride (PVC) Line Set Covers	237.35	8.61
23 81 26 13-0057 EA 14" Condensing Unit Mounting Blocks With End Caps	121.72	29.33
23 81 26 13-0058 EA 17" Condensing Unit Mounting Blocks With End Caps	134.69	31.29
23 81 26 13-0059 EA 36" Condensing Unit Mounting Blocks With End Caps	187.57	33.24
23 81 26 13-0060 EA End Cap, Set of 4	23.45	
23 81 26 13-0061 EA 18" Condensing Unit Type 2 Wall Bracket, 165 LB Capacity	260.03	58.66
23 81 26 13-0062 EA 21" Condensing Unit Type 2 Wall Bracket, 220 LB Capacity	275.89	62.57
23 81 26 13-0063 LF 5/8" ID Condensate Drain Line	3.08	0.16
23 81 26 13-0064 LF 3/4" ID Condensate Drain Line	3.19	0.16
23 81 26 13-0065 Cased A/C Evaporator Coils (23 81 26 13-0001)		
23 81 26 13-0066 Vertical Cased A/C Evaporator Coils (23 81 26 13-0065)		
23 81 26 13-0067 EA 1-1/2 Ton Vertical Cased A/C Evaporator Coil	662.11	111.47
23 81 26 13-0068 EA 2 Ton Vertical Cased A/C Evaporator Coil	691.13	119.82
23 81 26 13-0069 EA 2-1/2 Ton Vertical Cased A/C Evaporator Coil	820.28	128.18
23 81 26 13-0070 EA 3 Ton Vertical Cased A/C Evaporator Coil	933.64	136.55
23 81 26 13-0071 EA 3-1/2 Ton Vertical Cased A/C Evaporator Coil	1,078.30	142.12
23 81 26 13-0072 EA 4 Ton Vertical Cased A/C Evaporator Coil	1,201.87	147.69
23 81 26 13-0073 EA 4-1/2 Ton Vertical Cased A/C Evaporator Coil	1,290.92	158.84
23 81 26 13-0074 EA 5 Ton Vertical Cased A/C Evaporator Coil	1,300.63	167.20
23 81 26 13-0075 "A" Style Horizontal Cased A/C Evaporator Coils (23 81 26 13-0065)		
23 81 26 13-0076 EA 2 Ton "A" Style Horizontal Cased A/C Evaporator Coil	808.24	114.25
23 81 26 13-0077 EA 2-1/2 Ton "A" Style Horizontal Cased A/C Evaporator Coil	928.16	120.66
23 81 26 13-0078 EA 3 Ton "A" Style Horizontal Cased A/C Evaporator Coil	1,061.61	128.18
23 81 26 13-0079 EA 3-1/2 Ton "A" Style Horizontal Cased A/C Evaporator Coil	1,100.08	132.81
23 81 26 13-0080 EA 4 Ton "A" Style Horizontal Cased A/C Evaporator Coil	1,151.78	139.33
23 81 26 13-0081 EA 4-1/2 Ton "A" Style Horizontal Cased A/C Evaporator Coil	1,166.41	146.57
23 81 26 13-0082 EA 5 Ton "A" Style Horizontal Cased A/C Evaporator Coil	1,180.76	153.82
23 81 26 13-0083 Slab Style Horizontal Cased A/C Evaporator Coils (23 81 26 13-0065)		
23 81 26 13-0084 EA 2 Ton Slab Style Horizontal Cased A/C Evaporator Coil	708.10	114.25
23 81 26 13-0085 EA 3 Ton Slab Style Horizontal Cased A/C Evaporator Coil	849.04	128.18
23 81 26 13-0086 EA 4 Ton Slab Style Horizontal Cased A/C Evaporator Coil	979.62	139.33
23 81 26 13-0087 EA 5 Ton Slab Style Horizontal Cased A/C Evaporator Coil	1,179.01	153.82

23 81 26 16 Large-Capacity Split-System Air-Conditioners (23 81 26)

23 81 26 16-0001 Split System Air Conditioners, Variable Refrigerant Flow (Mitsubishi City Multi) (23 81 26 16)



Heating, Ventilating, and Air-Conditioning (HVAC)

23

Decentralized Unitary HVAC Equipment

23 80



Decentralized Unitary HVAC Equipment

23 81

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 26 16-0002 Outdoor Units (23 81 26 16-0001)		
23 81 26 16-0003 EA 6 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P72YKMU-A).....	16,336.44	573.01
23 81 26 16-0004 EA 8 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P96YKMU-A).....	17,708.07	682.15
23 81 26 16-0005 EA 10 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P120YKMU-A).....	19,932.71	818.58
23 81 26 16-0006 EA 12 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P144YKMU-A).....	24,551.31	845.87
23 81 26 16-0007 EA 12 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P144YSKMU-A).....	32,679.18	873.15
23 81 26 16-0008 EA 14 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P168YSKMU-A).....	33,887.08	900.44
23 81 26 16-0009 EA 16 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P192YSKMU-A).....	35,094.98	927.72
23 81 26 16-0010 EA 18 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P216YSKMU-A).....	37,155.92	982.29
23 81 26 16-0011 EA 20 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P240YSKMU-A).....	39,216.85	1,036.87
23 81 26 16-0012 EA 22 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P264YSKMU-A).....	43,890.03	1,091.44
23 81 26 16-0013 EA 24 Ton R2-Series Outdoor Unit (Mitsubishi PURY-P288YSKMU-A).....	48,563.19	1,146.01
23 81 26 16-0014 Indoor Units (23 81 26 16-0001)		
23 81 26 16-0015 EA 6 MBH Cooling, 6.7 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P06NBMU-E2).....	1,685.48	177.36
23 81 26 16-0016 EA 8 MBH Cooling, 9 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P08NBMU-E2).....	1,771.91	191.01
23 81 26 16-0017 EA 12 MBH Cooling, 13.5 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P12NBMU-E2).....	1,848.49	204.65
23 81 26 16-0018 EA 15 MBH Cooling, 17 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P15NBMU-E2).....	1,939.85	218.29
23 81 26 16-0019 EA 18 MBH Cooling, 20 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P18NBMU-E2).....	2,100.57	259.22
23 81 26 16-0020 EA 24 MBH Cooling, 27 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P24NBMU-E2).....	2,344.76	313.79
23 81 26 16-0021 EA 30 MBH Cooling, 34 MBH Heating Wall Mounted Indoor Unit (Mitsubishi PKFY-P30NBMU-E2).....	2,540.29	341.07
23 81 26 16-0022 EA 6 MBH Cooling, 6.7 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P06NMAU-E3).....	2,445.48	195.10
23 81 26 16-0023 EA 8 MBH Cooling, 9 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P08NMAU-E3).....	2,529.71	210.11
23 81 26 16-0024 EA 12 MBH Cooling, 13.5 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P12NMAU-E3).....	2,668.16	225.11
23 81 26 16-0025 EA 15 MBH Cooling, 17 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P15NMAU-E3).....	2,895.33	240.12
23 81 26 16-0026 EA 18 MBH Cooling, 20 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P18NMAU-E3).....	3,054.37	285.14
23 81 26 16-0027 EA 24 MBH Cooling, 27 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P24NMAU-E3).....	3,351.86	345.17
23 81 26 16-0028 EA 27 MBH Cooling, 30 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P27NMAU-E3).....	3,524.82	360.17
23 81 26 16-0029 EA 30 MBH Cooling, 34 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P30NMAU-E3).....	3,717.48	375.18
23 81 26 16-0030 EA 36 MBH Cooling, 40 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P36NMAU-E3).....	4,122.74	412.70
23 81 26 16-0031 EA 48 MBH Cooling, 54 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P48NMAU-E3).....	4,570.02	453.97
23 81 26 16-0032 EA 54 MBH Cooling, 60 MBH Heating Ceiling Concealed Ducted Indoor Unit (Mitsubishi PEFY-P54NMAU-E3).....	4,946.67	499.37
23 81 26 16-0033 EA 72 MBH Cooling, 80 MBH Heating Ceiling Concealed High Static Ducted Indoor Unit (Mitsubishi PEFY-P72NMHSU-E).....	6,273.80	549.31
23 81 26 16-0034 EA 96 MBH Cooling, 108 MBH Heating Ceiling Concealed High Static Ducted Indoor Unit (Mitsubishi PEFY-P96NMHSU-E).....	7,122.99	604.23
23 81 26 16-0035 EA 12 MBH Cooling, 13.5 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP12NEMU-E).....	2,779.55	225.11
23 81 26 16-0036 EA 15 MBH Cooling, 17 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP15NEMU-E).....	2,930.82	240.12
23 81 26 16-0037 EA 18 MBH Cooling, 20 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP18NEMU-E).....	3,092.82	285.14
23 81 26 16-0038 EA 24 MBH Cooling, 27 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP24NEMU-E).....	3,466.21	345.17
23 81 26 16-0039 EA 30 MBH Cooling, 34 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP30NEMU-E).....	3,734.24	375.18
23 81 26 16-0040 EA 36 MBH Cooling, 40 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-EP36NEMU-E).....	4,571.25	412.71
23 81 26 16-0041 EA 6 MBH Cooling, 6.7 MBH Heating 1-Way Ceiling Recessed Cassette With Grille (Mitsubishi PMFY-P06NBMU-ER5).....	2,499.70	195.10
23 81 26 16-0042 EA 8 MBH Cooling, 9 MBH Heating 1-Way Ceiling Recessed Cassette With Grille (Mitsubishi PMFY-P08NBMU-ER5).....	2,628.28	210.11
23 81 26 16-0043 EA 12 MBH Cooling, 13.5 MBH Heating 1-Way Ceiling Recessed Cassette With Grille (Mitsubishi PMFY-P12NBMU-ER5).....	2,825.88	225.11
23 81 26 16-0044 EA 15 MBH Cooling, 17 MBH Heating 1-Way Ceiling Recessed Cassette With Grille (Mitsubishi PMFY-P15NBMU-ER5).....	2,974.19	240.12
23 81 26 16-0045 EA 8 MBH Cooling, 9 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-P08NCMU-ER4).....	2,312.84	210.11
23 81 26 16-0046 EA 12 MBH Cooling, 13.5 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-P12NCMU-ER4).....	2,431.58	225.11
23 81 26 16-0047 EA 15 MBH Cooling, 17 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Mitsubishi PLFY-P15NCMU-ER4).....	2,555.25	240.12
23 81 26 16-0048 Controllers For Outdoor Units (23 81 26 16-0001)		
23 81 26 16-0049 EA 8 Branch (Main BC) (Mitsubishi CMB-P108NU-HA1).....	8,854.18	163.72
23 81 26 16-0050 EA 10 Branch (Main BC) (Mitsubishi CMB-P1010NU-HA1).....	10,239.51	191.01
23 81 26 16-0051 EA 13 Branch (Main BC) (Mitsubishi CMB-P1013NU-GA).....	11,314.34	218.29
23 81 26 16-0052 EA 16 Branch (Main BC) (Mitsubishi CMB-P1016NU-HA).....	13,429.14	245.58
23 81 26 16-0053 EA 4 Branch (Sub BC) (Mitsubishi CMB-P104NU-GB).....	4,935.11	109.14
23 81 26 16-0054 EA 8 Branch (Sub BC) (Mitsubishi CMB-P108NU-GB).....	7,602.27	163.72
23 81 26 16-0055 EA 16 Branch (Sub BC) (Mitsubishi CMB-P1016NU-HB).....	11,620.28	245.58
23 81 26 16-0056 Energy Recovery Units (23 81 26 16-0001)		
23 81 26 16-0057 EA 36.2 MBH Cooling, 39.9 MBH Heating Hydronic Heat Exchanger Auxiliary Unit (Mitsubishi PWFY-P36NMU-E2-AU).....	6,261.65	163.72
23 81 26 16-0058 EA 39.9 MBH Hydronic Heat Exchanger Booster Unit (Mitsubishi PWFY-P36NMU-E-BU).....	11,860.72	163.72
23 81 26 16-0059 EA 112 MBH Cooling, 61.4 MBH Heating Reheat Unit (Mitsubishi PEFY-AF1200CFMR).....	12,028.65	191.01
23 81 26 16-0060 EA Lossnay Energy Recovery Ventilator ERV, 300 CFM (Mitsubishi LGH-F300RX5-E).....	2,490.80	136.43
23 81 26 16-0061 EA Lossnay Energy Recovery Ventilator ERV, 470 CFM (Mitsubishi LGH-F470RX5-E).....	3,176.95	141.88
23 81 26 16-0062 EA Lossnay Energy Recovery Ventilator ERV, 600 CFM (Mitsubishi LGH-F600RX5-E).....	3,789.18	147.35

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**MINOR
CSI UOM DESCRIPTIONTOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 81 26 16-0063 EA Lossnay Energy Recovery Ventilator ERV, 1,200 CFM (Mitsubishi LGH-F1200RX5-E1)..... 6,917.18 163.72

23 81 26 16-0064 Piping Specialties (23 81 26 16-0001)

23 81 26 16-0065 EA Maintenance Tool Interface (Mitsubishi CMS-MNG-E)..... 877.32
 23 81 26 16-0066 EA Branch Joint (Mitsubishi CMY-Y102SS-G2) 231.42 42.34
 23 81 26 16-0067 EA Branch Joint (Mitsubishi CMY-Y102LS-G2) 231.42 42.34
 23 81 26 16-0068 EA Branch Joint (Mitsubishi CMY-Y202S-G2)..... 256.71 44.57
 23 81 26 16-0069 EA Branch Joint (Mitsubishi CMY-Y302S-G2)..... 322.06 50.14
 23 81 26 16-0070 EA Header - 4 Branch (Mitsubishi CMY-Y64-G-E) 420.85 72.42
 23 81 26 16-0071 EA Header - 8 Branch (Mitsubishi CMY-Y68-G-E) 713.56 144.84
 23 81 26 16-0072 EA Refrigeration Ball Valve-Flare/Schrader/Insulated - 3/8" (Mitsubishi BV38FFSI) 129.30 17.83
 23 81 26 16-0073 EA Refrigeration Ball Valve-Flare/Schrader/Insulated - 5/8" (Mitsubishi BV58FFSI) 145.63 24.51

23 81 26 16-0074 Split System Air Conditioners (Daikin VRV) (23 81 26 16)**23 81 26 16-0075 Heat Pump Outdoor Units (23 81 26 16-0074)**

23 81 26 16-0076 EA 6 Ton Heat Pump Outdoor Unit (Daikin) 25,379.87 573.01
 23 81 26 16-0077 EA 8 Ton Heat Pump Outdoor Unit (Daikin) 28,361.68 682.15
 23 81 26 16-0078 EA 10 Ton Heat Pump Outdoor Unit (Daikin) 31,610.63 818.58
 23 81 26 16-0079 EA 12 Ton Heat Pump Outdoor Unit (Daikin) 39,530.57 845.87
 23 81 26 16-0080 EA 14 Ton Heat Pump Outdoor Unit (Daikin) 53,032.11 900.44
 23 81 26 16-0081 EA 16 Ton Heat Pump Outdoor Unit (Daikin) 56,062.76 927.72
 23 81 26 16-0082 EA 18 Ton Heat Pump Outdoor Unit (Daikin) 58,935.42 982.29
 23 81 26 16-0083 EA 20 Ton Heat Pump Outdoor Unit (Daikin) 62,020.65 1,036.87
 23 81 26 16-0084 EA 22 Ton Heat Pump Outdoor Unit (Daikin) 80,411.48 1,091.44
 23 81 26 16-0085 EA 24 Ton Heat Pump Outdoor Unit (Daikin) 83,496.71 1,146.01
 23 81 26 16-0086 EA 26 Ton Heat Pump Outdoor Unit (Daikin) 86,581.94 1,200.58
 23 81 26 16-0087 EA 28 Ton Heat Pump Outdoor Unit (Daikin) 89,454.60 1,255.15
 23 81 26 16-0088 EA 30 Ton Heat Pump Outdoor Unit (Daikin) 92,539.83 1,309.73

23 81 26 16-0089 Heat Recovery Heat Pump Outdoor Units (23 81 26 16-0074)

23 81 26 16-0090 EA 6 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 32,500.09 744.91
 23 81 26 16-0091 EA 8 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 35,429.05 886.80
 23 81 26 16-0092 EA 10 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 38,904.25 1,064.16
 23 81 26 16-0093 EA 12 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 48,966.35 1,099.63
 23 81 26 16-0094 EA 14 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 66,327.03 1,170.57
 23 81 26 16-0095 EA 16 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 71,499.83 1,206.04
 23 81 26 16-0096 EA 18 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 74,192.66 1,276.98
 23 81 26 16-0097 EA 20 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 76,885.48 1,347.93
 23 81 26 16-0098 EA 22 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 101,367.51 1,418.88
 23 81 26 16-0099 EA 24 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 104,060.33 1,489.82
 23 81 26 16-0100 EA 26 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 109,304.09 1,560.76
 23 81 26 16-0101 EA 28 Ton Heat Recovery Heat Pump Outdoor Unit (Daikin) 111,996.90 1,631.71

23 81 26 16-0102 Indoor Units (23 81 26 16-0074)

23 81 26 16-0103 EA 7.5 MBH Cooling, 8.5 MBH Heating Wall Mounted Indoor Unit (Daikin) 2,868.76 191.01
 23 81 26 16-0104 EA 9.5 MBH Cooling, 10.5 MBH Heating Wall Mounted Indoor Unit (Daikin) 2,998.00 196.46
 23 81 26 16-0105 EA 12 MBH Cooling, 13.5 MBH Heating Wall Mounted Indoor Unit (Daikin) 3,397.41 204.65
 23 81 26 16-0106 EA 18 MBH Cooling, 20 MBH Heating Wall Mounted Indoor Unit (Daikin) 3,799.36 259.22
 23 81 26 16-0107 EA 24 MBH Cooling, 26.5 MBH Heating Wall Mounted Indoor Unit (Daikin) 4,161.18 313.79
 23 81 26 16-0108 EA 7.5 MBH Cooling, 8.5 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin) 4,222.53 210.11
 23 81 26 16-0109 EA 9.5 MBH Cooling, 10.5 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin) 4,364.90 216.10
 23 81 26 16-0110 EA 12 MBH Cooling, 13.5 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin) 4,585.46 220.05
 23 81 26 16-0111 EA 18 MBH Cooling, 20 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin) 4,855.93 285.14
 23 81 26 16-0112 EA 24 MBH Cooling, 27 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin) 5,752.09 345.17
 23 81 26 16-0113 EA 30 MBH Cooling, 34 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin) 6,584.22 375.18
 23 81 26 16-0114 EA 36 MBH Cooling, 40 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin) 7,032.27 412.70
 23 81 26 16-0115 EA 48 MBH Cooling, 54 MBH Heating Ceiling Concealed Ducted Indoor Unit (Daikin) 7,265.23 453.97
 23 81 26 16-0116 EA 7.5 MBH Cooling, 8.7 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Daikin)..... 4,731.92 210.11
 23 81 26 16-0117 EA 9.5 MBH Cooling, 11.1 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Daikin)..... 4,844.20 216.10
 23 81 26 16-0118 EA 12 MBH Cooling, 14 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Daikin)..... 5,153.00 225.11
 23 81 26 16-0119 EA 18 MBH Cooling, 21 MBH Heating 4-Way Ceiling Recessed Cassette With Grille (Daikin)..... 5,483.63 285.14

23 81 26 16-0120 Branch Selector Boxes (23 81 26 16-0074)

23 81 26 16-0121 EA 144 MBH, 4 Branch, Multi Port Branch Selector Box (Daikin)..... 14,521.28 245.58
 23 81 26 16-0122 EA 216 MBH, 6 Branch, Multi Port Branch Selector Box (Daikin)..... 21,487.47 327.43
 23 81 26 16-0123 EA 36 MBH, 4 Branch, Single Port Branch Selector Box (Daikin) 2,845.43 109.14
 23 81 26 16-0124 EA 60 MBH, 8 Branch, Single Port Branch Selector Box (Daikin) 3,830.95 163.72
 23 81 26 16-0125 EA 96 MBH, 8 Branch, Single Port Branch Selector Box (Daikin) 4,742.70 245.58

23 81 26 16-0126 Controllers (23 81 26 16-0074)

23 81 26 16-0127 EA Up To 16 Units, Navigation Controller (Daikin) 870.06 21.83
 23 81 26 16-0128 EA Individual Zone Controller (Daikin)..... 621.39 21.83
 23 81 26 16-0129 EA Up To 16 Groups, Unified ON/OFF Controller (Daikin)..... 1,229.04 21.83



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Decentralized Unitary HVAC Equipment			23 80	
Decentralized Unitary HVAC Equipment			23 81	

MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 26 16-0130	EA	Up To 64 Units, Multizone Controller (Daikin).....	1,732.40	21.83	
23 81 26 16-0131	EA	I-Touch Manager Replaced Both Daikin IMP-128 thru 1024 and DCS601C71 (Daikin).....	16,055.98	261.95	
23 81 26 16-0132	EA	I-Touch Manager D3net Plus Adapter (Daikin).....	3,025.92	21.83	
23 81 26 16-0133	EA	24 Volt AC, Wired Thermostat For Split A/C Systems (Daikin).....	661.73	38.52	
23 81 26 16-0134 Energy Recovery Units (23 81 26 16-0074)					
23 81 26 16-0135	EA	300 CFM Energy Recovery Unit (Daikin).....	5,003.72	136.43	
23 81 26 16-0136	EA	470 CFM Energy Recovery Unit (Daikin).....	6,502.67	141.88	
23 81 26 16-0137	EA	600 CFM Energy Recovery Unit (Daikin).....	7,789.06	147.35	
23 81 26 16-0138	EA	1,200 CFM Energy Recovery Unit (Daikin).....	14,570.14	163.72	
23 81 43 Air-Source Unitary Heat Pumps (23 81)					
23 81 43 00-0001 Single Package Thru-Wall Heat Pumps (23 81 43)					
Note: Air-to-air type with electric heat. Includes throwaway filters. Through the wall units are wired for 230/208 Volt, 1 phase, 60 HZ. With electronic controls, thermostat, cord and NEMA plug. Units are shipped fully factory assembled in one piece, prewired, prepiped and charged with refrigerant, complete with push button controls all mounted in a steel cabinet, wall sleeve and outdoor grille. Excludes crane and associated personnel. See CSI section 01 22 23 00-0968 for crane lifting equipment.					
23 81 43 00-0002	EA	1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	2,057.48	177.40	
		For Unit Economizer, Add	274.33		
		For >35 To 70, Deduct	-51.44		
		For >70 To 100, Deduct	-85.73		
		For >100, Deduct	-120.02		
		For Low Ambient Protection, 0 Degree F, Add	240.05		
23 81 43 00-0003	EA	1 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	2,271.64	189.24	
		For Unit Economizer, Add	303.36		
		For >35 To 70, Deduct	-57.15		
		For >70 To 100, Deduct	-95.25		
		For >100, Deduct	-133.35		
		For Low Ambient Protection, 0 Degree F, Add	263.11		
23 81 43 00-0004	EA	1-1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	3,871.84	189.24	
		For Unit Economizer, Add	527.39		
		For >35 To 70, Deduct	-105.16		
		For >70 To 100, Deduct	-175.26		
		For >100, Deduct	-245.36		
		For Low Ambient Protection, 0 Degree F, Add	407.13		
23 81 43 00-0005	EA	2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	4,238.39	189.24	
		For Unit Economizer, Add	577.76		
		For >35 To 70, Deduct	-115.44		
		For >70 To 100, Deduct	-192.41		
		For >100, Deduct	-269.37		
		For Low Ambient Protection, 0 Degree F, Add	213.02		
23 81 43 00-0006	EA	2-1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	4,795.46	201.06	
		For Unit Economizer, Add	654.81		
		For >35 To 70, Deduct	-131.45		
		For >70 To 100, Deduct	-219.08		
		For >100, Deduct	-306.71		
		For Low Ambient Protection, 0 Degree F, Add	234.93		
23 81 43 00-0007	EA	3 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	5,024.06	212.89	
		For Unit Economizer, Add	686.81		
		For >35 To 70, Deduct	-138.30		
		For >70 To 100, Deduct	-230.51		
		For >100, Deduct	-322.71		
		For Low Ambient Protection, 0 Degree F, Add	702.80		
23 81 43 00-0008	EA	3-1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	5,657.32	212.89	
		For Unit Economizer, Add	774.52		
		For >35 To 70, Deduct	-156.59		
		For >70 To 100, Deduct	-260.99		
		For >100, Deduct	-365.38		
		For Low Ambient Protection, 0 Degree F, Add	787.96		
23 81 43 00-0009	EA	4 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	6,240.64	224.71	
		For Unit Economizer, Add	855.71		
		For >35 To 70, Deduct	-173.74		
		For >70 To 100, Deduct	-289.56		
		For >100, Deduct	-405.38		
		For Low Ambient Protection, 0 Degree F, Add	865.21		
23 81 43 00-0010	EA	5 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	7,187.90	260.19	
		For Unit Economizer, Add	985.49		
		For >35 To 70, Deduct	-200.03		
		For >70 To 100, Deduct	-333.38		
		For >100, Deduct	-466.73		
		For Low Ambient Protection, 0 Degree F, Add	996.87		
23 81 43 00-0011	EA	7-1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat.....	13,161.75	307.50	
		For Unit Economizer, Add	1,817.57		
		For >35 To 70, Deduct	-376.05		
		For >70 To 100, Deduct	-626.75		
		For >100, Deduct	-877.44		
		For Low Ambient Protection, 0 Degree F, Add	1,786.25		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 43 00-0012 EA 10 Ton Single Package Heat Pump, Air To Air Type With Electric Heat..... For Unit Economizer, Add For >35 To 70, Deduct For >70 To 100, Deduct For >100, Deduct For Low Ambient Protection, 0 Degree F, Add	16,946.83 2,340.86 -484.63 -807.72 -1,130.81 359.65	390.29
23 81 43 00-0013 EA 12-1/2 Ton Single Package Heat Pump, Air To Air Type With Electric Heat..... For Unit Economizer, Add For >35 To 70, Deduct For >70 To 100, Deduct For >100, Deduct For Low Ambient Protection, 0 Degree F, Add	20,687.22 2,861.20 -594.36 -990.60 -1,386.84 416.92	437.61
23 81 43 00-0014 EA 15 Ton Single Package Heat Pump, Air To Air Type With Electric Heat..... For Unit Economizer, Add For >35 To 70, Deduct For >70 To 100, Deduct For >100, Deduct For Low Ambient Protection, 0 Degree F, Add	25,518.08 3,533.27 -736.09 -1,226.82 -1,717.55 490.78	496.74
23 81 43 00-0015 EA 20 Ton Single Package Heat Pump, Air To Air Type With Electric Heat..... For Unit Economizer, Add For >35 To 70, Deduct For >70 To 100, Deduct For >100, Deduct For Low Ambient Protection, 0 Degree F, Add	33,982.88 4,715.03 -987.55 -1,645.92 -2,304.29 595.29	532.22
23 81 43 00-0016 EA 25 Ton Single Package Heat Pump, Air To Air Type With Electric Heat..... For Unit Economizer, Add For >35 To 70, Deduct For >70 To 100, Deduct For >100, Deduct For Low Ambient Protection, 0 Degree F, Add	40,935.51 5,684.61 -1,193.29 -1,988.82 -2,784.35 687.53	579.53
23 81 43 00-0017 Single Package Vertical Wall Heat Pumps (23 81 43) Note: Air-to-air type with electric heat. Includes throwaway filters. Wall units are wired for 230/208 Volt, 1 phase, 60 HZ. With solid state electronic controls, thermostat, cord and NEMA plug. Units are shipped fully factory assembled in one piece, prewired, prepiped and charged with refrigerant, complete with push button controls, insulated steel cabinet, with wall sleeve and outdoor grille and stainless steel drain pan. Excludes crane and associated personnel. See CSI section 01 22 23 00-0968 for crane lifting equipment.		
23 81 43 00-0018 EA 1 1/2 Ton Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat.....	3,160.40	236.54
23 81 43 00-0019 EA 1 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat.....	3,831.96	260.19
23 81 43 00-0020 EA 1-1/2 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat.....	4,949.88	272.03
23 81 43 00-0021 EA 2 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat.....	5,673.90	295.68
23 81 43 00-0022 EA 2-1/2 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat.....	7,093.15	342.98
23 81 43 00-0023 EA 3 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat.....	7,579.08	390.29
23 81 43 00-0024 EA 3-1/2 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat.....	8,232.65	437.61
23 81 43 00-0025 EA 4 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat.....	9,263.15	484.91
23 81 43 00-0026 EA 5 Ton Single Package Heat Pump, Vertical Wall Unit, Air To Air Type With Electric Heat.....	10,445.87	579.53
23 81 43 00-0027 Heat Pump, Room Air-Conditioners (23 81 43) Note: Includes throwaway filters and supplemental heat.		
23 81 43 00-0028 Heat Pump, Window Unit, Room Air-Conditioners (23 81 43 00-0027)		
23 81 43 00-0029 Heat Pump, Window Unit, Room Air-Conditioners (Friedrich) (23 81 43 00-0028)		
23 81 43 00-0030 EA 10,000 BTU, 10.9 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich YS10N10C)..... For >10 To 50, Deduct For >50 To 75, Deduct For >75 To 100, Deduct For >100, Deduct	2,493.89 -113.23 -158.53 -226.47 -271.76	114.60
23 81 43 00-0031 EA 12,000 BTU, 10.9 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich YS12N33C)..... For >10 To 50, Deduct For >50 To 75, Deduct For >75 To 100, Deduct For >100, Deduct	2,820.26 -129.55 -181.37 -259.11 -310.93	114.60
23 81 43 00-0032 EA 17,500 BTU, 10.9 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich KHM18A34A)..... For >10 To 50, Deduct For >50 To 75, Deduct For >75 To 100, Deduct For >100, Deduct	3,309.83 -154.03 -215.64 -308.06 -369.68	114.60
23 81 43 00-0033 EA 24,000 BTU, 10.3 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich YL24N35D)..... For >10 To 50, Deduct For >50 To 75, Deduct For >75 To 100, Deduct For >100, Deduct	3,853.79 -181.23 -253.72 -362.46 -434.95	114.60
23 81 43 00-0034 Heat Pump, Through-The-Wall, Room Air-Conditioners (23 81 43 00-0027) Note: Base unit excludes wall sleeve.		
23 81 43 00-0035 Heat Pump, Through-The-Wall, Room Air-Conditioners (Friedrich) (23 81 43 00-0034)		



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Decentralized Unitary HVAC Equipment			23 80
Decentralized Unitary HVAC Equipment			23 81

MINOR		TOTAL DIRECT		DEMOLITION
CSI	UOM DESCRIPTION	UNIT COST		UNIT COST
23 81 43 00-0036	EA 9,300 BTU, 9.8 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich WY09C33D).....	2,519.07		81.86
	For >10 To 50, Deduct	-117.77		
	For >50 To 75, Deduct	-164.87		
	For >75 To 100, Deduct	-235.54		
	For >100, Deduct	-282.64		
	For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add	273.27		
23 81 43 00-0037	EA 11,300 BTU, 9.3 EER, 230/208 Volt, Heat Pump, Through-The-Wall, Room Air-Conditioner (Friedrich WY12D33A).....	2,519.07		81.86
	For >10 To 50, Deduct	-117.77		
	For >50 To 75, Deduct	-164.87		
	For >75 To 100, Deduct	-235.54		
	For >100, Deduct	-282.64		
	For 27" Wide x 16-3/4" Deep x 16-3/4" High, Wall Sleeve (Friedrich WSE), Add	273.27		
23 81 46 Water-Source Unitary Heat Pumps (23 81)				
23 81 46 00-0001	Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pumps (23 81 46)			
	Note: R410a. Includes rubber isolator hanger brackets. McQuay CCW Series.			
23 81 46 00-0002	EA 7 MBH, 300 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump.....	3,432.60		222.93
23 81 46 00-0003	EA 9 MBH, 300 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump.....	3,542.32		222.93
23 81 46 00-0004	EA 12 MBH, 400 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump.....	4,096.47		245.23
23 81 46 00-0005	EA 19 MBH, 630 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump.....	4,314.17		267.51
23 81 46 00-0006	EA 24 MBH, 800 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump.....	4,626.95		289.81
23 81 46 00-0007	EA 30 MBH, 1,000 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump.....	5,451.75		312.10
23 81 46 00-0008	EA 36 MBH, 1,200 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump.....	5,569.47		334.40
23 81 46 00-0009	EA 42 MBH, 1,400 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump.....	6,077.31		356.68
23 81 46 00-0010	EA 48 MBH, 1,600 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump.....	6,487.61		378.98
23 81 46 00-0011	EA 60 MBH, 2,000 CFM Horizontal, Ceiling Mounted, Geothermal Water Source Heat Pump.....	6,593.16		401.28
23 81 49 Split System Heat Pumps (23 81)				
23 81 49 00-0001	Split System Heat Pump (23 81 49)			
	See CSI section 23 23 16 00-0001 for piping.			
23 81 49 00-0002	Air Cooled, Outdoor Section (23 81 49 00-0001)			
	Note: Includes 20' length of piping (liquid line and insulated suction line). Excludes additional piping.			
23 81 49 00-0003	EA 1.5 Ton, 14 SEER, Outdoor Heat Pump Unit.....	4,112.32		351.26
	Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.			
	For Low Ambient Protection, 0 Degree F, Add	741.67		
	For Winterstart Control, Add	196.43		
	For 15 SEER, Add	644.42		
	For 16 SEER, Add	1,038.23		
	For 18 SEER, Add	1,575.24		
23 81 49 00-0004	EA 2 Ton, 14 SEER, Outdoor Heat Pump Unit.....	4,241.23		390.29
	Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.			
	For Low Ambient Protection, 0 Degree F, Add	768.32		
	For Winterstart Control, Add	205.13		
	For 15 SEER, Add	656.98		
	For 16 SEER, Add	1,058.47		
	For 18 SEER, Add	1,605.95		
23 81 49 00-0005	EA 2.5 Ton, 14 SEER, Outdoor Heat Pump Unit.....	4,634.19		452.97
	Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.			
	For Low Ambient Protection, 0 Degree F, Add	842.69		
	For Winterstart Control, Add	226.53		
	For 15 SEER, Add	710.68		
	For 16 SEER, Add	1,144.98		
	For 18 SEER, Add	1,737.22		
23 81 49 00-0006	EA 3 Ton, 14 SEER, Outdoor Heat Pump Unit.....	5,059.14		520.39
	Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.			
	For Low Ambient Protection, 0 Degree F, Add	709.60		
	For Winterstart Control, Add	249.68		
	For 15 SEER, Add	768.71		
	For 16 SEER, Add	1,238.48		
	For 18 SEER, Add	1,879.08		
23 81 49 00-0007	EA 3.5 Ton, 14 SEER, Outdoor Heat Pump Unit.....	5,219.32		540.50
	Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.			
	For Low Ambient Protection, 0 Degree F, Add	732.76		
	For Winterstart Control, Add	257.90		
	For 15 SEER, Add	792.10		
	For 16 SEER, Add	1,276.16		
	For 18 SEER, Add	1,936.24		
23 81 49 00-0008	EA 4 Ton, 14 SEER, Outdoor Heat Pump Unit.....	5,797.65		620.92
	Note: Precharged with refrigerant capable of charging the system with a 20' length of piping.			
	For Low Ambient Protection, 0 Degree F, Add	811.03		
	For Winterstart Control, Add	285.13		
	For 15 SEER, Add	883.91		
	For 16 SEER, Add	1,424.08		
	For 18 SEER, Add	2,160.67		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 81 Decentralized Unitary HVAC Equipment**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 49 00-0009	EA	5 Ton, 14 SEER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add For 15 SEER, Add For 16 SEER, Add For 18 SEER, Add	6,600.93 525.19 153.83 1,012.54 1,631.31 2,475.09	683.01
23 81 49 00-0010	EA	7.5 Ton, 11.5 EER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add	6,987.78 567.68 168.11	764.01
23 81 49 00-0011	EA	10 Ton, 11.1 EER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add	9,659.05 408.56 214.66	916.81
23 81 49 00-0012	EA	15 Ton, 10.9 EER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add	12,697.60 461.69 264.17	1,069.62
23 81 49 00-0013	EA	20 Ton, 10.3 EER, Outdoor Heat Pump Unit..... Note: Precharged with refrigerant capable of charging the system with a 20' length of piping. For Low Ambient Protection, 0 Degree F, Add For Winterstart Control, Add	22,776.70 489.81 375.08	1,146.01
23 81 49 00-0014		Indoor Section, Horizontal Upflow (23 81 49 00-0001) Note: Electric heat. Includes throwaway filters.		
23 81 49 00-0015	EA	2 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 5 KW Electric Heat For Additional 5 KW Electric Heat, Add	1,210.45 109.31	116.78
23 81 49 00-0016	EA	2-1/2 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 5 KW Electric Heat For Additional 5 KW Electric Heat, Add	1,335.75 119.02	145.49
23 81 49 00-0017	EA	3 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 5 KW Electric Heat For Additional 5 KW Electric Heat, Add	1,396.78 122.07	175.72
23 81 49 00-0018	EA	3-1/2 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 5 KW Electric Heat For Additional 5 KW Electric Heat, Add	1,879.88 167.40	205.74
23 81 49 00-0019	EA	4 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 10 KW Electric Heat For Additional 5 KW Electric Heat, Add	1,932.46 170.02	231.93
23 81 49 00-0020	EA	5 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 10 KW Electric Heat For Additional 5 KW Electric Heat, Add	2,144.31 187.81	266.31
23 81 49 00-0021	EA	7-1/2 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 10 KW Electric Heat For Additional 5 KW Electric Heat, Add	4,564.10 412.75	436.58
23 81 49 00-0022	EA	10 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 15 kW Electric Heat For Additional 5 KW Electric Heat, Add	6,715.66 622.46	491.15
23 81 49 00-0023	EA	15 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 15KW Electric Heat For Additional 5 KW Electric Heat, Add	9,408.81 886.31	545.72
23 81 49 00-0024	EA	20 Ton Indoor Section Split Heat Pump Packaged Unit, Horizontal Upflow With 15 KW Electric Heat For Additional 5 KW Electric Heat, Add	10,696.81 1,004.18	654.86
23 81 49 00-0025		Ductless Split System Heat Pumps (23 81 49 00-0001) Note: Excludes refrigerant piping, electrical, and pad. Sanyo units or equal. See CSI section 23 81 26 13-0030 for accessories.		
23 81 49 00-0026		Wall Mounted Ductless Split System Heat Pumps (23 81 49 00-0025)		
23 81 49 00-0027	EA	9,000 BTU Cooling, 12,200 BTU Heating, 16 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	2,349.06	360.17
23 81 49 00-0028	EA	11,900 BTU Cooling, 13,300 BTU Heating, 17 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	2,595.19	392.92
23 81 49 00-0029	EA	17,500 BTU Cooling, 20,400 BTU Heating, 20 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,164.87	436.58
23 81 49 00-0030	EA	24,200 BTU Cooling, 29,000 BTU Heating, 17 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,642.09	480.24
23 81 49 00-0031	EA	25,200 BTU Cooling, 29,200 BTU Heating, 14.9 SEER, Wall Mounted Ductless Split System Heat Pumps..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,157.98	523.89
23 81 49 00-0032	EA	29,800 BTU Cooling, 34,800 BTU Heating, 15 SEER, Wall Mounted Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,972.93	545.72
23 81 49 00-0033	EA	31,400 BTU Cooling, 36,400 BTU Heating, 15.9 SEER, Wall Mounted Ductless Split System Heat Pumps..... Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,551.24	581.73
23 81 49 00-0034		Dual and Tri Zone Wall Mounted Ductless Split System Heat Pumps (23 81 49 00-0025)		
23 81 49 00-0035	EA	7,500 BTU Cooling, 8,500 BTU Heating Indoor Unit, Wall Mounted Ductless Split System Heat Pumps..... Note: Includes indoor unit and wireless thermostat.	975.05	174.63
23 81 49 00-0036	EA	9,000 BTU Cooling, 12,200 BTU Heating Indoor Unit, Wall Mounted Ductless Split System Heat Pumps..... Note: Includes indoor unit and wireless thermostat.	1,029.27	185.55
23 81 49 00-0037	EA	11,900 BTU Cooling, 14,300 BTU Heating Indoor Unit, Wall Mounted Ductless Split System Heat Pumps..... Note: Includes indoor unit and wireless thermostat.	1,084.39	196.46
23 81 49 00-0038	EA	17,500 BTU Cooling, 20,400 BTU Heating Indoor Unit, Wall Mounted Ductless Split System Heat Pumps..... Note: Includes indoor unit and wireless thermostat.	1,233.77	207.38
23 81 49 00-0039	EA	24,200 BTU Cooling, 29,000 BTU Heating Indoor Unit, Wall Mounted Ductless Split System Heat Pumps..... Note: Includes indoor unit and wireless thermostat.	1,314.92	218.29



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Decentralized Unitary HVAC Equipment			23 80
Decentralized Unitary HVAC Equipment			23 81



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 81 49 00-0040	EA	19,700 BTU Cooling, 24,800 BTU Heating, 16.4 SEER, Outdoor Unit, Wall Mounted Ductless Split System Heat Pumps Note: Includes outdoor unit and refrigerant charge.	2,916.09	261.95
23 81 49 00-0041	EA	23,200 BTU Cooling, 29,200 BTU Heating, 16.5 SEER, Outdoor Unit, Wall Mounted Ductless Split System Heat Pumps Note: Includes outdoor unit and refrigerant charge.	3,455.44	283.77
23 81 49 00-0042	EA	30,600 BTU Cooling, 32,000 BTU Heating, 17.2 SEER, Outdoor Unit, Wall Mounted Ductless Split System Heat Pumps Note: Includes outdoor unit and refrigerant charge.	5,599.03	305.60
23 81 49 00-0043		Suspended Ceiling Mounted Ductless Split System Heat Pumps (23 81 49 00-0025) Note: Excludes hangers.		
23 81 49 00-0044	EA	24,400 BTU Cooling, 30,800 BTU Heating, 14.5 SEER, Ceiling Suspended Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,511.69	523.89
23 81 49 00-0045	EA	31,200 BTU Cooling, 37,400 BTU Heating, 15.1 SEER, Ceiling Suspended Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,690.12	625.40
23 81 49 00-0046	EA	39,000 BTU Cooling, 44,500 BTU Heating, 15.6 SEER, Ceiling Suspended Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	8,069.99	654.86
23 81 49 00-0047		Recessed Ceiling Mounted Ductless Split System Heat Pumps (23 81 49 00-0025) Note: Excludes hangers.		
23 81 49 00-0048	EA	11,900 BTU Cooling, 13,600 BTU Heating, 16 SEER, Ceiling Recessed Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,657.73	436.58
23 81 49 00-0049	EA	17,500 BTU Cooling, 20,400 BTU Heating, 16 SEER, Ceiling Recessed Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	4,147.51	480.24
23 81 49 00-0050	EA	24,800 BTU Cooling, 29,800 BTU Heating, 14.1 SEER, Ceiling Recessed Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,486.17	567.55
23 81 49 00-0051	EA	32,600 BTU Cooling, 37,600 BTU Heating, 14.6 SEER, Ceiling Recessed Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,331.03	625.40
23 81 49 00-0052	EA	39,500 BTU Cooling, 48,000 BTU Heating, 14.6 SEER, Ceiling Recessed Ductless Split System Heat Pumps Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	7,890.45	654.86
23 82 Convection Heating and Cooling Units (23 80)				
23 82 16 Air Coils (23 82)				
23 82 16 11 Hydronic Air Coils (23 82 16)				
23 82 16 11-0001 Chilled Water Cooling Coils (23 82 16 11) Note: Flanged construction, 16 gauge galvanized steel casing.				
23 82 16 11-0002 2 Row Chilled Water Cooling Coils (23 82 16 11-0001)				
23 82 16 11-0003	EA	12" x 12" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	1,862.65	55.73
23 82 16 11-0004	EA	12" x 24" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,101.01	75.80
23 82 16 11-0005	EA	24" x 30" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	4,164.75	119.27
23 82 16 11-0006	EA	24" x 48" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,015.47	170.54
23 82 16 11-0007	EA	30" x 48" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,307.40	209.56
23 82 16 11-0008	EA	30" x 60" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,929.29	254.14
23 82 16 11-0009	EA	30" x 72" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,340.59	294.26
23 82 16 11-0010	EA	30" x 84" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,846.14	519.87
23 82 16 11-0011	EA	34" x 32" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	4,279.92	197.63
23 82 16 11-0012	EA	34" x 48" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,469.56	336.51
23 82 16 11-0013	EA	34" x 60" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,113.90	418.00
23 82 16 11-0014	EA	34" x 72" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,684.77	504.83
23 82 16 11-0015	EA	34" x 84" Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	7,288.97	587.86
23 82 16 11-0016	SF	>20 SF, Chilled Water Cooling Coil, 2 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	367.52	29.64
23 82 16 11-0017 4 Row Chilled Water Cooling Coils (23 82 16 11-0001)				
23 82 16 11-0018	EA	12" x 12" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	2,307.77	115.92
23 82 16 11-0019	EA	12" x 24" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	3,722.80	167.20
23 82 16 11-0020	EA	24" x 30" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	5,054.35	278.67
23 82 16 11-0021	EA	24" x 48" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted Note: Includes indoor unit, outdoor unit, wireless thermostat and refrigerant charge.	6,152.92	413.53

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 16 11-0022	EA	30" x 48" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	7,101.61	507.17
23 82 16 11-0023	EA	30" x 60" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	8,433.74	619.74
23 82 16 11-0024	EA	30" x 72" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	9,373.29	743.47
23 82 16 11-0025	EA	30" x 84" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	9,108.10	865.41
23 82 16 11-0026	EA	34" x 32" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	5,797.16	373.52
23 82 16 11-0027	EA	34" x 48" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	7,359.08	561.79
23 82 16 11-0028	EA	34" x 60" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	8,141.68	696.66
23 82 16 11-0029	EA	34" x 72" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	9,056.38	839.34
23 82 16 11-0030	EA	34" x 84" Chilled Water Cooling Coil, 4 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	9,909.54	981.23
23 82 16 11-0031 6 Row Chilled Water Cooling Coils (23 82 16 11-0001)				
23 82 16 11-0032	EA	12" x 12" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	3,268.29	147.14
23 82 16 11-0033	EA	12" x 24" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	3,827.19	218.47
23 82 16 11-0034	EA	24" x 30" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	5,170.94	372.29
23 82 16 11-0035	EA	24" x 48" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	6,995.39	557.32
23 82 16 11-0036	EA	30" x 48" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	9,211.22	696.66
23 82 16 11-0037	EA	30" x 60" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	10,432.16	857.17
23 82 16 11-0038	EA	30" x 72" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	12,127.65	1,013.22
23 82 16 11-0039	EA	30" x 84" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	11,441.33	1,180.75
23 82 16 11-0040	EA	34" x 32" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	7,236.18	510.40
23 82 16 11-0041	EA	34" x 48" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	9,205.45	765.54
23 82 16 11-0042	EA	34" x 60" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	10,312.67	958.60
23 82 16 11-0043	EA	34" x 72" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	11,383.19	1,151.55
23 82 16 11-0044	EA	34" x 84" Chilled Water Cooling Coil, 6 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	12,460.47	1,339.70
23 82 16 11-0045 8 Row Chilled Water Cooling Coils (23 82 16 11-0001)				
23 82 16 11-0046	EA	12" x 12" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	4,089.85	177.23
23 82 16 11-0047	EA	12" x 24" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	4,971.57	271.98
23 82 16 11-0048	EA	24" x 30" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	7,368.87	484.88
23 82 16 11-0049	EA	24" x 48" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	9,719.22	743.47
23 82 16 11-0050	EA	30" x 48" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	11,647.44	929.63
23 82 16 11-0051	EA	30" x 60" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	13,506.47	1,114.66
23 82 16 11-0052	EA	30" x 72" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	15,552.98	1,238.38
23 82 16 11-0053	EA	30" x 84" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	13,087.56	1,436.45
23 82 16 11-0054	EA	34" x 32" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	8,236.44	621.98
23 82 16 11-0055	EA	34" x 48" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	10,503.86	935.09
23 82 16 11-0056	EA	34" x 60" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	11,786.20	1,164.81
23 82 16 11-0057	EA	34" x 72" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	13,001.84	1,393.31
23 82 16 11-0058	EA	34" x 84" Chilled Water Cooling Coil, 8 Row Flanged Construction, 16 Gauge Galvanized Steel Casing, Duct Mounted.....	14,282.13	1,639.20
23 82 16 11-0059 Hot Water Heating Coils (23 82 16 11)				
Note: Flanged construction.				
23 82 16 11-0060 1 Row Hot Water Heating Coils (23 82 16 11-0059)				



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Decentralized Unitary HVAC Equipment			23 80	
Convection Heating and Cooling Units			23 82	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 16 11-0061	EA	12" x 12"	Hot Water Heating Coil, 1 Row Flanged Construction.....	1,448.20	150.48
			For 10 Fins Per Inch, Add	22.94	
			For 12 Fins Per Inch, Add	57.35	
			For 230 PSIG Heavy Duty, Add	319.77	
23 82 16 11-0062	EA	12" x 24"	Hot Water Heating Coil, 1 Row Flanged Construction.....	2,156.90	192.83
			For 10 Fins Per Inch, Add	35.45	
			For 12 Fins Per Inch, Add	88.63	
			For 230 PSIG Heavy Duty, Add	469.82	
23 82 16 11-0063	EA	24" x 30"	Hot Water Heating Coil, 1 Row Flanged Construction.....	2,616.12	265.29
			For 10 Fins Per Inch, Add	41.71	
			For 12 Fins Per Inch, Add	104.27	
			For 230 PSIG Heavy Duty, Add	576.30	
23 82 16 11-0064	EA	24" x 48"	Hot Water Heating Coil, 1 Row Flanged Construction.....	3,089.11	372.29
			For 10 Fins Per Inch, Add	46.92	
			For 12 Fins Per Inch, Add	117.30	
			For 230 PSIG Heavy Duty, Add	692.13	
23 82 16 11-0065	EA	30" x 48"	Hot Water Heating Coil, 1 Row Flanged Construction.....	3,498.40	445.87
			For 10 Fins Per Inch, Add	52.13	
			For 12 Fins Per Inch, Add	130.33	
			For 230 PSIG Heavy Duty, Add	788.85	
23 82 16 11-0066	EA	30" x 60"	Hot Water Heating Coil, 1 Row Flanged Construction.....	4,086.27	557.32
			For 10 Fins Per Inch, Add	59.43	
			For 12 Fins Per Inch, Add	148.58	
			For 230 PSIG Heavy Duty, Add	928.72	
23 82 16 11-0067	EA	30" x 72"	Hot Water Heating Coil, 1 Row Flanged Construction.....	4,575.05	618.64
			For 10 Fins Per Inch, Add	66.73	
			For 12 Fins Per Inch, Add	166.83	
			For 230 PSIG Heavy Duty, Add	1,038.86	
23 82 16 11-0068	EA	30" x 84"	Hot Water Heating Coil, 1 Row Flanged Construction.....	5,673.08	719.28
			For 10 Fins Per Inch, Add	84.58	
			For 12 Fins Per Inch, Add	211.46	
			For 230 PSIG Heavy Duty, Add	1,279.00	
23 82 16 11-0069	EA	34" x 32"	Hot Water Heating Coil, 1 Row Flanged Construction.....	2,449.38	311.66
			For 10 Fins Per Inch, Add	36.52	
			For 12 Fins Per Inch, Add	91.30	
			For 230 PSIG Heavy Duty, Add	552.22	
23 82 16 11-0070	EA	34" x 48"	Hot Water Heating Coil, 1 Row Flanged Construction.....	3,674.04	467.60
			For 10 Fins Per Inch, Add	54.78	
			For 12 Fins Per Inch, Add	136.95	
			For 230 PSIG Heavy Duty, Add	828.32	
23 82 16 11-0071	EA	34" x 72"	Hot Water Heating Coil, 1 Row Flanged Construction.....	5,522.95	707.25
			For 10 Fins Per Inch, Add	82.17	
			For 12 Fins Per Inch, Add	205.42	
			For 230 PSIG Heavy Duty, Add	1,246.04	
23 82 16 11-0072	EA	34" x 84"	Hot Water Heating Coil, 1 Row Flanged Construction.....	6,432.31	819.61
			For 10 Fins Per Inch, Add	95.86	
			For 12 Fins Per Inch, Add	239.66	
			For 230 PSIG Heavy Duty, Add	1,450.38	
23 82 16 11-0073	SF	>15 SF	Hot Water Heating Coil, 1 Row, Flanged Construction.....	292.38	41.24
			For 10 Fins Per Inch, Add	4.20	
			For 12 Fins Per Inch, Add	10.49	
			For 230 PSIG Heavy Duty, Add	66.73	
23 82 16 11-0074 2 Row Hot Water Heating Coils (23 82 16 11-0059)					
23 82 16 11-0075	EA	12" x 12"	Hot Water Heating Coil, 2 Row Flanged Construction.....	2,352.64	186.15
			For 10 Fins Per Inch, Add	39.62	
			For 12 Fins Per Inch, Add	99.05	
			For 230 PSIG Heavy Duty, Add	507.68	
23 82 16 11-0076	EA	12" x 24"	Hot Water Heating Coil, 2 Row Flanged Construction.....	2,528.61	247.45
			For 10 Fins Per Inch, Add	40.66	
			For 12 Fins Per Inch, Add	101.66	
			For 230 PSIG Heavy Duty, Add	555.26	
23 82 16 11-0077	EA	24" x 30"	Hot Water Heating Coil, 2 Row Flanged Construction.....	3,401.91	372.29
			For 10 Fins Per Inch, Add	53.18	
			For 12 Fins Per Inch, Add	132.94	
			For 230 PSIG Heavy Duty, Add	754.69	
23 82 16 11-0078	EA	24" x 48"	Hot Water Heating Coil, 2 Row Flanged Construction.....	4,085.33	530.57
			For 10 Fins Per Inch, Add	60.48	
			For 12 Fins Per Inch, Add	151.19	
			For 230 PSIG Heavy Duty, Add	923.22	
23 82 16 11-0079	EA	30" x 48"	Hot Water Heating Coil, 2 Row Flanged Construction.....	4,700.04	655.41
			For 10 Fins Per Inch, Add	67.77	
			For 12 Fins Per Inch, Add	169.43	
			For 230 PSIG Heavy Duty, Add	1,071.14	
23 82 16 11-0080	EA	30" x 60"	Hot Water Heating Coil, 2 Row Flanged Construction.....	4,981.04	795.86
			For 10 Fins Per Inch, Add	67.77	
			For 12 Fins Per Inch, Add	169.43	
			For 230 PSIG Heavy Duty, Add	1,155.44	
23 82 16 11-0081	EA	30" x 72"	Hot Water Heating Coil, 2 Row Flanged Construction.....	5,611.38	929.63
			For 10 Fins Per Inch, Add	75.07	
			For 12 Fins Per Inch, Add	187.68	
			For 230 PSIG Heavy Duty, Add	1,308.05	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 16 11-0082 EA 30" x 84" Hot Water Heating Coil, 2 Row Flanged Construction.....	6,918.07	1,080.10
For 10 Fins Per Inch, Add	95.16	
For 12 Fins Per Inch, Add	237.89	
For 230 PSIG Heavy Duty, Add	1,599.63	
23 82 16 11-0083 EA 34" x 32" Hot Water Heating Coil, 2 Row Flanged Construction.....	2,986.17	466.04
For 10 Fins Per Inch, Add	41.08	
For 12 Fins Per Inch, Add	102.71	
For 230 PSIG Heavy Duty, Add	690.43	
23 82 16 11-0084 EA 34" x 48" Hot Water Heating Coil, 2 Row Flanged Construction.....	4,481.60	700.12
For 10 Fins Per Inch, Add	61.63	
For 12 Fins Per Inch, Add	154.06	
For 230 PSIG Heavy Duty, Add	1,036.35	
23 82 16 11-0085 EA 34" x 72" Hot Water Heating Coil, 2 Row Flanged Construction.....	6,733.01	1,055.57
For 10 Fins Per Inch, Add	92.44	
For 12 Fins Per Inch, Add	231.10	
For 230 PSIG Heavy Duty, Add	1,557.71	
23 82 16 11-0086 EA 34" x 84" Hot Water Heating Coil, 2 Row Flanged Construction.....	7,858.34	1,233.03
For 10 Fins Per Inch, Add	107.85	
For 12 Fins Per Inch, Add	269.61	
For 230 PSIG Heavy Duty, Add	1,818.27	

23 82 16 11-0087 Hot Water Preheat Coils For Multi-Zone Air Handling Units (23 82 16 11)

Note: 2 Row coils. Coils are sized by air handling unit capacity.

23 82 16 11-0088 EA 3,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	1,913.97	141.57
23 82 16 11-0089 EA 4,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	2,456.16	140.45
23 82 16 11-0090 EA 5,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	3,017.42	150.48
23 82 16 11-0091 EA 6,500 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	3,507.99	163.85
23 82 16 11-0092 EA 7,500 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	3,523.12	171.65
23 82 16 11-0093 EA 9,200 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	4,269.59	180.58
23 82 16 11-0094 EA 11,500 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	4,419.61	202.87
23 82 16 11-0095 EA 13,200 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	4,886.31	227.39
23 82 16 11-0096 EA 16,500 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	5,496.42	271.98
23 82 16 11-0097 EA 19,500 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	5,993.51	285.35
23 82 16 11-0098 EA 22,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	7,692.67	302.07
23 82 16 11-0099 EA 27,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	9,792.64	413.53
23 82 16 11-0100 EA 34,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	12,305.46	507.17
23 82 16 11-0101 EA 40,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	14,346.31	530.57
23 82 16 11-0102 EA 47,000 CFM, Hot Water Preheat Coils, 2 Row Coils, Multi Zone Air Handling Unit.....	16,852.50	618.64

23 82 16 12 Steam Air Coils (23 82 16)**23 82 16 12-0001 Steam Heating Coils (23 82 16 12)**

Note: Flanged construction.

23 82 16 12-0002 EA 12" x 12" Steam Heating Coils, 1 Row Flanged Construction.....	2,275.48	104.78
For 2 Row Coil, Add	724.31	
For 4 Row Coil, Add	1,909.97	
23 82 16 12-0003 EA 12" x 24" Steam Heating Coils, 1 Row Flanged Construction.....	2,504.30	144.90
For 2 Row Coil, Add	809.19	
For 4 Row Coil, Add	2,127.93	
23 82 16 12-0004 EA 24" x 30" Steam Heating Coils, 1 Row Flanged Construction.....	3,250.01	259.71
For 2 Row Coil, Add	1,078.69	
For 4 Row Coil, Add	2,822.94	
23 82 16 12-0005 EA 24" x 48" Steam Heating Coils, 1 Row Flanged Construction.....	4,065.28	372.29
For 2 Row Coil, Add	1,368.20	
For 4 Row Coil, Add	3,571.76	
23 82 16 12-0006 EA 30" x 48" Steam Heating Coils, 1 Row Flanged Construction.....	4,509.20	445.87
For 2 Row Coil, Add	1,531.10	
For 4 Row Coil, Add	3,990.80	
23 82 16 12-0007 EA 30" x 60" Steam Heating Coils, 1 Row Flanged Construction.....	5,027.45	557.32
For 2 Row Coil, Add	1,731.17	
For 4 Row Coil, Add	4,501.26	
23 82 16 12-0008 EA 30" x 72" Steam Heating Coils, 1 Row Flanged Construction.....	5,520.42	618.64
For 2 Row Coil, Add	1,903.83	
For 4 Row Coil, Add	4,948.89	
23 82 16 12-0009 EA 30" x 84" Steam Heating Coils, 1 Row Flanged Construction.....	6,871.35	721.96
For 2 Row Coil, Add	2,350.18	
For 4 Row Coil, Add	6,117.94	
23 82 16 12-0010 EA 34" x 32" Steam Heating Coils, 1 Row Flanged Construction.....	2,966.73	311.66
For 2 Row Coil, Add	1,014.70	
For 4 Row Coil, Add	2,641.45	
23 82 16 12-0011 EA 34" x 48" Steam Heating Coils, 1 Row Flanged Construction.....	4,450.09	467.60
For 2 Row Coil, Add	1,522.05	
For 4 Row Coil, Add	3,962.17	
23 82 16 12-0012 EA 34" x 72" Steam Heating Coils, 1 Row Flanged Construction.....	6,672.75	700.12
For 2 Row Coil, Add	2,281.89	
For 4 Row Coil, Add	5,940.34	
23 82 16 12-0013 EA 34" x 84" Steam Heating Coils, 1 Row Flanged Construction.....	7,790.38	819.61
For 2 Row Coil, Add	2,664.95	
For 4 Row Coil, Add	6,937.16	

23 82 16 13 Refrigerant Air Coils (23 82 16)



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 16 13-0001		Direct Expansion Cooling Coils (23 82 16 13) Note: Flanged construction 16 gauge galvanized steel casing.		
23 82 16 13-0002		2 Row Direct Expansion Cooling Coils (23 82 16 13-0001)		
23 82 16 13-0003	EA	12" x 12" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	1,787.08	83.60
		For 10 Fins Per Inch, Add	32.39	
		For 12 Fins Per Inch, Add	80.97	
23 82 16 13-0004	EA	12" x 24" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	3,468.74	114.81
		For 10 Fins Per Inch, Add	64.78	
		For 12 Fins Per Inch, Add	161.95	
23 82 16 13-0005	EA	24" x 30" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	4,768.98	180.58
		For 10 Fins Per Inch, Add	88.19	
		For 12 Fins Per Inch, Add	220.47	
23 82 16 13-0006	EA	24" x 48" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	5,729.56	259.71
		For 10 Fins Per Inch, Add	104.22	
		For 12 Fins Per Inch, Add	260.56	
23 82 16 13-0007	EA	30" x 48" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	6,649.77	317.68
		For 10 Fins Per Inch, Add	120.26	
		For 12 Fins Per Inch, Add	300.64	
23 82 16 13-0008	EA	30" x 60" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	7,422.92	384.55
		For 10 Fins Per Inch, Add	133.08	
		For 12 Fins Per Inch, Add	332.71	
23 82 16 13-0009	EA	30" x 72" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	8,507.98	445.87
		For 10 Fins Per Inch, Add	152.33	
		For 12 Fins Per Inch, Add	380.81	
23 82 16 13-0010	EA	30" x 84" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	10,693.74	519.87
		For 10 Fins Per Inch, Add	193.08	
		For 12 Fins Per Inch, Add	482.70	
23 82 16 13-0011	EA	34" x 32" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	4,106.81	197.63
		For 10 Fins Per Inch, Add	74.23	
		For 12 Fins Per Inch, Add	185.58	
23 82 16 13-0012	EA	34" x 48" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	5,255.78	336.51
		For 10 Fins Per Inch, Add	91.65	
		For 12 Fins Per Inch, Add	229.13	
23 82 16 13-0013	EA	34" x 72" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	6,431.87	504.83
		For 10 Fins Per Inch, Add	108.44	
		For 12 Fins Per Inch, Add	271.11	
23 82 16 13-0014	EA	34" x 84" Direct Expansion Cooling Coil, 2 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	7,016.37	587.86
		For 10 Fins Per Inch, Add	116.81	
		For 12 Fins Per Inch, Add	292.03	
23 82 16 13-0015		4 Row Direct Expansion Cooling Coils (23 82 16 13-0001)		
23 82 16 13-0016	EA	12" x 12" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	2,982.09	115.92
		For 10 Fins Per Inch, Add	55.00	
		For 12 Fins Per Inch, Add	137.49	
23 82 16 13-0017	EA	12" x 24" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	4,261.11	167.20
		For 10 Fins Per Inch, Add	78.57	
		For 12 Fins Per Inch, Add	196.42	
23 82 16 13-0018	EA	24" x 30" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	5,768.44	278.67
		For 10 Fins Per Inch, Add	104.22	
		For 12 Fins Per Inch, Add	260.56	
23 82 16 13-0019	EA	24" x 48" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	6,998.85	413.53
		For 10 Fins Per Inch, Add	123.46	
		For 12 Fins Per Inch, Add	308.66	
23 82 16 13-0020	EA	30" x 48" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	8,068.39	507.17
		For 10 Fins Per Inch, Add	141.10	
		For 12 Fins Per Inch, Add	352.75	
23 82 16 13-0021	EA	30" x 60" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	9,576.30	619.74
		For 10 Fins Per Inch, Add	166.76	
		For 12 Fins Per Inch, Add	416.89	
23 82 16 13-0022	EA	30" x 72" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	10,625.71	743.47
		For 10 Fins Per Inch, Add	182.79	
		For 12 Fins Per Inch, Add	456.98	
23 82 16 13-0023	EA	30" x 84" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	10,279.56	865.41
		For 10 Fins Per Inch, Add	170.97	
		For 12 Fins Per Inch, Add	427.44	
23 82 16 13-0024	EA	34" x 32" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	6,599.08	373.52
		For 10 Fins Per Inch, Add	117.04	
		For 12 Fins Per Inch, Add	292.60	
23 82 16 13-0025	EA	34" x 48" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	8,349.23	561.79
		For 10 Fins Per Inch, Add	144.51	
		For 12 Fins Per Inch, Add	361.28	
23 82 16 13-0026	EA	34" x 72" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	12,505.43	988.14
		For 10 Fins Per Inch, Add	210.58	
		For 12 Fins Per Inch, Add	526.46	
23 82 16 13-0027	EA	34" x 84" Direct Expansion Cooling Coil, 4 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing	14,303.54	1,151.55
		For 10 Fins Per Inch, Add	240.01	
		For 12 Fins Per Inch, Add	600.03	
23 82 16 13-0028		6 Row Direct Expansion Cooling Coils (23 82 16 13-0001)		

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 16 13-0029 EA 12" x 12" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	3,820.86	146.02
For 10 Fins Per Inch, Add	70.55	
For 12 Fins Per Inch, Add	176.38	
23 82 16 13-0030 EA 12" x 24" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	4,365.50	218.47
For 10 Fins Per Inch, Add	78.57	
For 12 Fins Per Inch, Add	196.42	
23 82 16 13-0031 EA 24" x 30" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	6,274.91	372.29
For 10 Fins Per Inch, Add	110.64	
For 12 Fins Per Inch, Add	276.59	
23 82 16 13-0032 EA 24" x 48" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	7,929.21	557.32
For 10 Fins Per Inch, Add	136.29	
For 12 Fins Per Inch, Add	340.73	
23 82 16 13-0033 EA 30" x 48" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	10,452.65	696.66
For 10 Fins Per Inch, Add	181.19	
For 12 Fins Per Inch, Add	452.97	
23 82 16 13-0034 EA 30" x 60" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	11,816.41	857.17
For 10 Fins Per Inch, Add	202.03	
For 12 Fins Per Inch, Add	505.08	
23 82 16 13-0035 EA 30" x 72" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	13,731.62	1,013.22
For 10 Fins Per Inch, Add	234.10	
For 12 Fins Per Inch, Add	585.25	
23 82 16 13-0036 EA 30" x 84" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	12,883.14	1,180.75
For 10 Fins Per Inch, Add	210.43	
For 12 Fins Per Inch, Add	526.08	
23 82 16 13-0037 EA 34" x 32" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	8,223.15	510.40
For 10 Fins Per Inch, Add	144.05	
For 12 Fins Per Inch, Add	360.12	
23 82 16 13-0038 EA 34" x 48" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	10,424.08	765.54
For 10 Fins Per Inch, Add	177.86	
For 12 Fins Per Inch, Add	444.65	
23 82 16 13-0039 EA 34" x 72" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	12,806.19	1,142.07
For 10 Fins Per Inch, Add	210.44	
For 12 Fins Per Inch, Add	526.10	
23 82 16 13-0040 EA 34" x 84" Direct Expansion Cooling Coil, 6 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	14,013.63	1,339.70
For 10 Fins Per Inch, Add	226.68	
For 12 Fins Per Inch, Add	566.71	
23 82 16 13-0041 8 Row Direct Expansion Cooling Coils (23 82 16 13-0001)		
23 82 16 13-0042 EA 12" x 12" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	4,763.27	176.12
For 10 Fins Per Inch, Add	88.19	
For 12 Fins Per Inch, Add	220.47	
23 82 16 13-0043 EA 12" x 24" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	5,674.68	271.98
For 10 Fins Per Inch, Add	102.62	
For 12 Fins Per Inch, Add	256.55	
23 82 16 13-0044 EA 24" x 30" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	8,385.09	484.88
For 10 Fins Per Inch, Add	148.32	
For 12 Fins Per Inch, Add	370.79	
23 82 16 13-0045 EA 24" x 48" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	11,026.56	743.47
For 10 Fins Per Inch, Add	190.81	
For 12 Fins Per Inch, Add	477.02	
23 82 16 13-0046 EA 30" x 48" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	13,201.97	929.63
For 10 Fins Per Inch, Add	226.88	
For 12 Fins Per Inch, Add	567.21	
23 82 16 13-0047 EA 30" x 60" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	15,297.20	1,114.66
For 10 Fins Per Inch, Add	261.36	
For 12 Fins Per Inch, Add	653.39	
23 82 16 13-0048 EA 30" x 72" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	17,629.35	1,238.38
For 10 Fins Per Inch, Add	303.05	
For 12 Fins Per Inch, Add	757.62	
23 82 16 13-0049 EA 30" x 84" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	14,709.59	1,436.45
For 10 Fins Per Inch, Add	236.74	
For 12 Fins Per Inch, Add	591.84	
23 82 16 13-0050 EA 34" x 32" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	9,346.79	621.98
For 10 Fins Per Inch, Add	162.06	
For 12 Fins Per Inch, Add	405.14	
23 82 16 13-0051 EA 34" x 48" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	11,874.82	935.09
For 10 Fins Per Inch, Add	200.09	
For 12 Fins Per Inch, Add	500.23	
23 82 16 13-0052 EA 34" x 72" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	14,652.10	1,407.36
For 10 Fins Per Inch, Add	236.75	
For 12 Fins Per Inch, Add	591.87	
23 82 16 13-0053 EA 34" x 84" Direct Expansion Cooling Coil, 8 Rows Flanged Construction, 16 Gauge Galvanized Steel Casing.....	16,029.44	1,639.20
For 10 Fins Per Inch, Add	255.02	
For 12 Fins Per Inch, Add	637.55	
23 82 16 14 Electric-Resistance Air Coils (23 82 16)		
23 82 16 14-0001 Standard Electric Slip-In Blast Coil Heater (23 82 16 14)		
23 82 16 14-0002 Electric Slip-In Blast Coil Heater With Open Coil Element (23 82 16 14-0001)		
23 82 16 14-0003 EA 1/2 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	600.30	84.04
23 82 16 14-0004 EA 1 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	614.29	90.59
23 82 16 14-0005 EA 2 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	630.82	99.32



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Decentralized Unitary HVAC Equipment			23 80
Convection Heating and Cooling Units			23 82

MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 16 14-0006	EA	3 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	636.39	102.60
23 82 16 14-0007	EA	4 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	650.67	109.14
23 82 16 14-0008	EA	5 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	667.10	117.88
23 82 16 14-0009	EA	6 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	770.38	132.06
23 82 16 14-0010	EA	7 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	783.69	138.61
23 82 16 14-0011	EA	8 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	794.61	142.98
23 82 16 14-0012	EA	9 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	810.56	151.71
23 82 16 14-0013	EA	10 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	890.16	160.44
23 82 16 14-0014	EA	12-1/2 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	921.23	175.72
23 82 16 14-0015	EA	15 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	952.11	191.01
23 82 16 14-0016	EA	20 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	985.42	206.28
23 82 16 14-0017	EA	30 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	1,389.58	288.14
23 82 16 14-0018	EA	40 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	2,577.80	306.70
23 82 16 14-0019	EA	50 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	2,826.67	351.45
23 82 16 14-0020	EA	60 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	3,351.89	389.65
23 82 16 14-0021	EA	70 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	3,509.85	423.48
23 82 16 14-0022	EA	80 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	3,845.53	464.95
23 82 16 14-0023	EA	90 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	4,758.85	496.61
23 82 16 14-0024	EA	100 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	5,233.74	533.71
23 82 16 14-0025	EA	125 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	6,388.19	576.28
23 82 16 14-0026	EA	150 KW Electric Heater, Open Coil Element, Standard Slip-In Blast Coil Duct Heater.....	7,205.34	626.48
23 82 16 14-0027 Electric Slip-In Blast Coil Heater With Finned Tubular Element (23 82 16 14-0001)				
23 82 16 14-0028	EA	1 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	974.02	120.05
23 82 16 14-0029	EA	2 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,002.25	130.97
23 82 16 14-0030	EA	3 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,014.14	130.97
23 82 16 14-0031	EA	4 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,095.75	144.07
23 82 16 14-0032	EA	5 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,145.65	144.07
23 82 16 14-0033	EA	6 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,172.21	144.07
23 82 16 14-0034	EA	8 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,229.27	160.44
23 82 16 14-0035	EA	9 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,279.94	180.09
23 82 16 14-0036	EA	10 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,306.50	180.09
23 82 16 14-0037	EA	15 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,470.44	206.28
23 82 16 14-0038	EA	20 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	1,894.92	206.28
23 82 16 14-0039	EA	25 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	2,011.67	223.75
23 82 16 14-0040	EA	30 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	2,372.11	240.12
23 82 16 14-0041	EA	40 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	2,828.91	240.12
23 82 16 14-0042	EA	45 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	3,089.61	251.03
23 82 16 14-0043	EA	50 KW Electric Heater, Finned Tube Element, Standard Slip-In Blast Coil Duct Heater.....	3,247.99	251.03
23 82 19 Fan Coil Units (23 82)				
23 82 19 00-0001 Ceiling Suspended Horizontal Fan Coil Units (23 82 19)				
Note: Includes cabinet, chilled water coil, baked enamel finish, multispeed fan and fan switch with integral and/or remote thermostat to control valves and on/off and fan speeds. Excludes supports.				
23 82 19 00-0002 Horizontal Fan Coil Units With Electric Heating Coil (23 82 19 00-0001)				
23 82 19 00-0003	EA	200 CFM, 6 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	2,005.07	180.58
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-52.98	
23 82 19 00-0004	EA	300 CFM, 9 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	2,280.76	210.67
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-56.03	
23 82 19 00-0005	EA	400 CFM, 12 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	2,706.49	237.42
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-58.72	
23 82 19 00-0006	EA	600 CFM, 18 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	3,110.72	271.98
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-62.19	
23 82 19 00-0007	EA	800 CFM, 24 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	3,510.62	285.35
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-107.87	
23 82 19 00-0008	EA	1,000 CFM, 30 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	4,508.79	302.07
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-110.19	
23 82 19 00-0009	EA	1,200 CFM, 36 MBH Cooling, Horizontal Fan Coil, Electric Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	5,306.00	327.71
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-114.18	
23 82 19 00-0010 Horizontal Fan Coil Units With Hot Water Heating Coil (23 82 19 00-0001)				
23 82 19 00-0011	EA	200 CFM, 6 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	2,920.13	180.58
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-52.98	
23 82 19 00-0012	EA	300 CFM, 9 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	3,288.45	210.67
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-56.03	
23 82 19 00-0013	EA	400 CFM, 12 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	4,059.10	237.42
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-58.72	
23 82 19 00-0014	EA	600 CFM, 18 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	4,393.39	271.98
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-62.19	
23 82 19 00-0015	EA	800 CFM, 24 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	4,686.16	286.47
		For 2-Way Valve Instead Of 3-Way, Deduct.....	-107.87	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 19 00-0016	EA	1,000 CFM, 30 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	6,235.51	302.07
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-110.19	
23 82 19 00-0017	EA	1,200 CFM, 36 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	7,313.16	327.71
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-114.18	
23 82 19 00-0018	EA	1,400 CFM, 42 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	7,797.49	339.97
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-116.00	
23 82 19 00-0019	EA	1,600 CFM, 48 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	8,703.48	353.90
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-118.09	
23 82 19 00-0020	EA	1,800 CFM, 54 MBH Cooling, Horizontal Fan Coil, Hot Water Heating, Ceiling Hung, Chilled Water Coil, With Cabinet.....	9,361.72	367.84
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-120.18	
23 82 19 00-0021		Floor Mounted Vertical Fan Coil Units (23 82 19) Note: Includes cabinet, chilled water coil, baked enamel finish, multispeed fan and fan switch with integral and/or remote thermostat to control valves and on/off and fan speeds.		
23 82 19 00-0022		Vertical Fan Coil Units With Electric Heating Coil (23 82 19 00-0021)		
23 82 19 00-0023	EA	200 CFM, 6 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	1,933.53	179.46
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-254.07	
		<i>For Thru-Wall Sleeve, Add</i>	126.91	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-52.98	
23 82 19 00-0024	EA	300 CFM, 9 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	2,209.22	210.67
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-289.32	
		<i>For Thru-Wall Sleeve, Add</i>	139.13	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-56.03	
23 82 19 00-0025	EA	400 CFM, 12 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	2,620.63	237.42
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-345.66	
		<i>For Thru-Wall Sleeve, Add</i>	149.86	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-58.72	
23 82 19 00-0026	EA	600 CFM, 18 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	3,011.98	271.98
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-397.42	
		<i>For Thru-Wall Sleeve, Add</i>	163.75	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-62.19	
23 82 19 00-0027	EA	800 CFM, 24 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	3,397.59	286.47
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-452.48	
		<i>For Thru-Wall Sleeve, Add</i>	169.32	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-107.87	
23 82 19 00-0028	EA	1,000 CFM, 30 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	4,358.55	302.07
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-593.53	
		<i>For Thru-Wall Sleeve, Add</i>	175.50	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-110.19	
23 82 19 00-0029	EA	1,200 CFM, 36 MBH Cooling, Vertical Fan Coil, Electric Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	5,127.14	327.71
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-703.50	
		<i>For Thru-Wall Sleeve, Add</i>	186.13	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-114.18	
23 82 19 00-0030		Vertical Fan Coil Units With Hot Water Heating Coil (23 82 19 00-0021)		
23 82 19 00-0031	EA	200 CFM, 6 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	2,808.70	179.46
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-385.35	
		<i>For Thru-Wall Sleeve, Add</i>	126.91	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-52.98	
23 82 19 00-0032	EA	300 CFM, 9 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	3,163.65	210.67
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-432.48	
		<i>For Thru-Wall Sleeve, Add</i>	139.13	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-56.03	
23 82 19 00-0033	EA	400 CFM, 12 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	3,903.10	237.42
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-538.03	
		<i>For Thru-Wall Sleeve, Add</i>	149.86	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-58.72	
23 82 19 00-0034	EA	600 CFM, 18 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	4,462.34	271.98
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-614.98	
		<i>For Thru-Wall Sleeve, Add</i>	163.75	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-62.19	
23 82 19 00-0035	EA	800 CFM, 24 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	4,980.05	286.47
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-689.85	
		<i>For Thru-Wall Sleeve, Add</i>	169.32	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-107.87	
23 82 19 00-0036	EA	1,000 CFM, 30 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	5,990.60	302.07
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-838.34	
		<i>For Thru-Wall Sleeve, Add</i>	175.50	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-110.19	
23 82 19 00-0037	EA	1,200 CFM, 36 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	7,023.41	327.71
		<i>For Fan Coil Units Without Cabinet, Deduct</i>	-987.94	
		<i>For Thru-Wall Sleeve, Add</i>	186.13	
		<i>For 2-Way Valve Instead Of 3-Way, Deduct</i>	-114.18	



Heating, Ventilating, and Air-Conditioning (HVAC)			23
Decentralized Unitary HVAC Equipment			23 80
Convection Heating and Cooling Units			23 82



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 19 00-0038	EA	1,400 CFM, 42 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	7,696.20	339.97
		For Fan Coil Units Without Cabinet, Deduct	-1,086.44	
		For Thru-Wall Sleeve, Add	190.99	
		For 2-Way Valve Instead Of 3-Way, Deduct	-116.00	
23 82 19 00-0039	EA	1,600 CFM, 48 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	8,500.89	353.90
		For Fan Coil Units Without Cabinet, Deduct	-1,204.35	
		For Thru-Wall Sleeve, Add	196.56	
		For 2-Way Valve Instead Of 3-Way, Deduct	-118.09	
23 82 19 00-0040	EA	1,800 CFM, 54 MBH Cooling, Vertical Fan Coil, Hot Water Heating, Floor Mounted, Chilled Water Coil, With Cabinet.....	9,066.37	353.90
		For Fan Coil Units Without Cabinet, Deduct	-1,286.39	
		For Thru-Wall Sleeve, Add	202.14	
		For 2-Way Valve Instead Of 3-Way, Deduct	-120.18	
23 82 19 00-0041		Removal And Reinstallation Of Fan Coil Units (23 82 19)		
		Note: Includes storage and cleaning. Excludes supports.		
23 82 19 00-0042	EA	Removal And Reinstallation Of Fan Coil Unit Horizontal Or Vertical	473.92	
23 82 19 00-0043		Fan Coil Units (Carrier) (23 82 19)		
		Note: Provide Pre-Manufactured Or Field Fabricated Filter Rack With 2" Merv 13, Pleated Throwaway Filters. Disconnect Switch Provided By Division 26 Contractor. Suspend Unit From Structure In Horizontal Position With All -Thread Rod And Spring Vibration Isolation (2" Minimum Deflection). Provide Necessary Mounting Bracket And Accessories For Specified Mounting. Provide Auxiliary Drain Pan With Auxiliary Drain Provided By Plumbing Contractor. Provide Unit With Space Temperature Control Devices Consistent With The Following Control Methods: Thermostat Or Room Controller For Local Override Of Centralized Controller With Integral Temperature Sensor. Temperature Sensor Without Local Override. Thermostat Or Room Controller For Local Override Of Centralized Controller With Remote Temperature Sensor. Fan Coil Unit With Integral Temperature Sensor In Return Airstream Without Local Override (Factory Default Setting).		
23 82 19 00-0044	EA	450 To 500 CFM, 12.1 To 14.2 MBH Cooling, Deck Mount, Fan Coil Unit (Carrier MMD-AP0184BH2UL-1).....	2,051.64	237.42
23 82 19 00-0045	EA	1,200 CFM, 33.3 To 39.5 MBH Cooling, Floor Mount, Fan Coil Unit (Carrier MMD-AP0360VHG2UL).....	3,563.09	327.71
		For Filter Box With 2" MERV 8 Filter (Carrier TCB-FB2F361VDGUL), Add	292.48	
23 82 19 00-0046	EA	150 To 230 CFM, 3.9 To 7.5 MBH Cooling, Wall Mount, Fan Coil Unit (Carrier MMK-AP0073H2UL).....	1,104.71	180.58
		For Filter Boxes For Toshiba (Carrier) High Static, Medium Static, OSA Units, and Slim Duct (Carrier FS-SPBH202), Add 482.25		
23 82 19 00-0047	EA	470 CFM, 15.8 MBH Cooling, Wall Mount, Fan Coil Unit (Carrier MMK-AP0183H2UL).....	1,278.93	210.67
		For Filter Boxes For Toshiba (Carrier) High Static, Medium Static, OSA Units, and Slim Duct (Carrier FS-SPBH202), Add 482.25		
23 82 19 00-0048	EA	Single Port Flow Selector (Carrier RBM-Y0963FUL).....	1,236.62	262.27
23 82 19 00-0049	EA	Multiport Flow Selector 4-Branch Unit (Carrier RBM-Y0611F4PUL).....	3,798.81	342.98
23 82 19 00-0050	EA	Y-Branch For Heat Recovery, 61-135k BTU (Carrier RBM-BY105FUL).....	196.42	39.01
23 82 19 00-0051	EA	Y-Branch For Heat Recovery, 136-238k BTU (Carrier RBM-BY205FUL).....	269.88	41.79
23 82 19 00-0052	EA	12 MBH, Ductless Variable Flow (VRF), Wall Mounted, Indoor Heat Pump (Carrier MMK-AP0123H2UL)	1,060.71	180.58
23 82 19 00-0053	EA	Single Port Flow Selector (Carrier RBM-Y0383FUL).....	3,113.86	262.27
23 82 19 00-0054	EA	Outdoor Heat Recovery Connection (Carrier RBM-BT14FUL)	427.81	39.01
23 82 29		Radiators (23 82)		
23 82 29 00-0001		Demolish Cast Iron Radiators (23 82 29)		
23 82 29 00-0002	LF	Demolish Cast Iron Radiator.....	33.43	
23 82 29 00-0003	EA	Cap Radiator.....	55.14	
23 82 29 00-0004		Cast Iron Radiator (23 82 29)		
23 82 29 00-0005	EA	19" High Cast Iron Radiator Section, Free Standing.....	67.52	
		For Wall Support Bracket, Add	28.29	
23 82 29 00-0006	EA	25" High Cast Iron Radiator Section, Free Standing.....	98.60	
		For Wall Support Bracket, Add	29.73	
23 82 29 00-0007	EA	30" High Cast Iron Radiator Section, Free Standing.....	115.71	
23 82 29 00-0008	EA	36" High Cast Iron Radiator Section, Free Standing.....	147.54	
23 82 29 00-0009	EA	20" High Cast Iron Radiator Section, Recessed With Grille.....	91.88	
23 82 29 00-0010		Radiator Covers (23 82 29)		
		Note: Includes field cutouts, vent grilles, and insulation backing. To calculate quantity, measure the surface area of front, top and sides.		
23 82 29 00-0011	SF	14 Gauge Stainless Steel Radiator Cover	132.28	5.93
23 82 29 00-0012	SF	Primed And Painted, Galvanized Steel Radiator Cover.....	82.10	5.93
23 82 29 00-0013		Radiator Shields (23 82 29)		
23 82 29 00-0014	SF	Stainless Steel Radiator Shield.....	67.56	5.93
23 82 29 00-0015	SF	Primed And Painted, Galvanized Steel Radiator Shield	48.99	5.93
23 82 29 00-0016		Removal And Reinstallation Of Radiator (23 82 29)		
		Note: Includes storage and cleaning.		
23 82 29 00-0017	LF	Removal And Reinstallation Of Cast Iron Radiator.....	83.60	
23 82 29 00-0018	LF	Removal And Reinstallation Of Electric Radiator.....	55.73	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

23 82 33 Convectors (23 82)**23 82 33 00-0001 Multi-Fin Convectors For Two-Pipe System (23 82 33)**

Note: Complete with 6-1/4" deep cabinet enclosure.

23 82 33 00-0002 20" High Multi-Fin Convectors For Two-Pipe System (23 82 33 00-0001)

23 82 33 00-0003	EA 20" High x 2' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	585.45	122.61
	For Metal Trim Strips, Add	61.73	
	For Snap-On Inlet Grille, Add	47.16	
	For Access Doors Hinged, Add	15.00	
	For Air Chamber, Auto-vent, Add	18.00	
	For 3 Tubes System, Add	139.88	
	For Knob Operated Damper, Add	15.00	
23 82 33 00-0004	EA 20" High x 3' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	691.14	133.76
	For Metal Trim Strips, Add	66.80	
	For Snap-On Inlet Grille, Add	50.53	
	For Access Doors Hinged, Add	15.00	
	For Air Chamber, Auto-vent, Add	18.00	
	For 3 Tubes System, Add	170.97	
	For Knob Operated Damper, Add	15.00	
23 82 33 00-0005	EA 20" High x 4' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	794.69	158.28
	For Metal Trim Strips, Add	77.88	
	For Snap-On Inlet Grille, Add	57.92	
	For Access Doors Hinged, Add	15.00	
	For Air Chamber, Auto-vent, Add	18.00	
	For 3 Tubes System, Add	194.28	
	For Knob Operated Damper, Add	15.00	
23 82 33 00-0006	EA 20" High x 6' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	952.27	183.91
	For Metal Trim Strips, Add	89.59	
	For Snap-On Inlet Grille, Add	65.73	
	For Access Doors Hinged, Add	15.00	
	For Air Chamber, Auto-vent, Add	18.00	
	For 3 Tubes System, Add	235.77	
	For Knob Operated Damper, Add	15.00	
23 82 33 00-0007	EA 20" High x 8' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,135.40	220.70
	For Metal Trim Strips, Add	106.30	
	For Snap-On Inlet Grille, Add	76.87	
	For Access Doors Hinged, Add	15.00	
	For Air Chamber, Auto-vent, Add	18.00	
	For 3 Tubes System, Add	280.37	
	For Knob Operated Damper, Add	15.00	
23 82 33 00-0008	EA 20" High x 10' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,278.04	242.77
	For Metal Trim Strips, Add	116.32	
	For Snap-On Inlet Grille, Add	83.55	
	For Access Doors Hinged, Add	15.00	
	For Air Chamber, Auto-vent, Add	18.00	
	For 3 Tubes System, Add	318.61	
	For Knob Operated Damper, Add	15.00	
23 82 33 00-0009	EA 20" High x 12' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,483.46	294.26
	For Metal Trim Strips, Add	139.71	
	For Snap-On Inlet Grille, Add	99.14	
	For Access Doors Hinged, Add	15.00	
	For Air Chamber, Auto-vent, Add	18.00	
	For 3 Tubes System, Add	363.21	
	For Knob Operated Damper, Add	15.00	
23 82 33 00-0010	EA 20" High x 14' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,620.58	312.66
	For Metal Trim Strips, Add	148.08	
	For Snap-On Inlet Grille, Add	104.72	
	For Access Doors Hinged, Add	15.00	
	For Air Chamber, Auto-vent, Add	18.00	
	For 3 Tubes System, Add	401.45	
	For Knob Operated Damper, Add	15.00	
23 82 33 00-0011	EA 20" High x 16' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,767.29	349.44
	For Metal Trim Strips, Add	164.78	
	For Snap-On Inlet Grille, Add	115.85	
	For Access Doors Hinged, Add	15.00	
	For Air Chamber, Auto-vent, Add	18.00	
	For 3 Tubes System, Add	433.31	
	For Knob Operated Damper, Add	15.00	
23 82 33 00-0012	EA 20" High x 18' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,950.53	386.23
	For Metal Trim Strips, Add	181.52	
	For Snap-On Inlet Grille, Add	127.01	
	For Access Doors Hinged, Add	15.00	
	For Air Chamber, Auto-vent, Add	18.00	
	For 3 Tubes System, Add	477.91	
	For Knob Operated Damper, Add	15.00	
23 82 33 00-0013	EA 20" High x 20' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,097.25	423.01
	For Metal Trim Strips, Add	198.23	
	For Snap-On Inlet Grille, Add	138.15	
	For Access Doors Hinged, Add	15.00	
	For Air Chamber, Auto-vent, Add	18.00	
	For 3 Tubes System, Add	509.78	
	For Knob Operated Damper, Add	15.00	

23 82 33 00-0014 26" High Multi-Fin Convectors For Two-Pipe System (23 82 33 00-0001)



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Decentralized Unitary HVAC Equipment			23 80	
Convection Heating and Cooling Units			23 82	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 33 00-0015	EA	26" High x 2' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	685.97	161.29
		For Metal Trim Strips, Add	78.57	
		For Snap-On Inlet Grille, Add	58.38	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	155.43	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0016	EA	26" High x 3' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	805.73	187.37
		For Metal Trim Strips, Add	90.27	
		For Snap-On Inlet Grille, Add	66.18	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	183.69	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0017	EA	26" High x 4' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	975.71	220.04
		For Metal Trim Strips, Add	104.93	
		For Snap-On Inlet Grille, Add	75.96	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	226.08	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0018	EA	26" High x 6' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,145.37	245.34
		For Metal Trim Strips, Add	116.29	
		For Snap-On Inlet Grille, Add	83.53	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	272.21	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0019	EA	26" High x 8' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,338.34	275.88
		For Metal Trim Strips, Add	130.04	
		For Snap-On Inlet Grille, Add	92.69	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	323.71	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0020	EA	26" High x 10' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,499.01	298.84
		For Metal Trim Strips, Add	140.40	
		For Snap-On Inlet Grille, Add	99.60	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	367.85	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0021	EA	26" High x 12' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,709.46	340.52
		For Metal Trim Strips, Add	159.39	
		For Snap-On Inlet Grille, Add	112.26	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	419.35	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0022	EA	26" High x 14' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,866.42	361.37
		For Metal Trim Strips, Add	168.65	
		For Snap-On Inlet Grille, Add	118.43	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	463.49	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0023	EA	26" High x 16' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,019.76	394.02
		For Metal Trim Strips, Add	183.12	
		For Snap-On Inlet Grille, Add	128.08	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	500.28	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0024	EA	26" High x 18' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,215.65	426.02
		For Metal Trim Strips, Add	197.74	
		For Snap-On Inlet Grille, Add	137.83	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	551.78	
		For Knob Operated Damper, Add	15.00	
23 82 33 00-0025	EA	26" High x 20' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,364.61	455.34
		For Metal Trim Strips, Add	210.90	
		For Snap-On Inlet Grille, Add	146.60	
		For Access Doors Hinged, Add	15.00	
		For Air Chamber, Auto-vent, Add	18.00	
		For 3 Tubes System, Add	588.56	
		For Knob Operated Damper, Add	15.00	

23 82 33 00-0026 32" High Multi-Fin Convectors For Two-Pipe System (23 82 33 00-0001)

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 33 00-0027	EA		32" High x 2' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	785.57	196.18
			For Metal Trim Strips, Add	95.13	
			For Snap-On Inlet Grille, Add	69.42	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	170.97	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0028	EA		32" High x 3' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	936.86	237.42
			For Metal Trim Strips, Add	113.87	
			For Snap-On Inlet Grille, Add	81.91	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	202.05	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0029	EA		32" High x 4' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,130.82	277.55
			For Metal Trim Strips, Add	132.09	
			For Snap-On Inlet Grille, Add	94.06	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	248.68	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0030	EA		32" High x 6' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,312.49	301.63
			For Metal Trim Strips, Add	143.09	
			For Snap-On Inlet Grille, Add	101.40	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	299.43	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0031	EA		32" High x 8' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,510.74	325.92
			For Metal Trim Strips, Add	154.01	
			For Snap-On Inlet Grille, Add	108.68	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	356.08	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0032	EA		32" High x 10' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,685.36	349.44
			For Metal Trim Strips, Add	164.78	
			For Snap-On Inlet Grille, Add	115.85	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	404.63	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0033	EA		32" High x 12' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	1,892.04	378.87
			For Metal Trim Strips, Add	178.23	
			For Snap-On Inlet Grille, Add	124.82	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	461.28	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0034	EA		32" High x 14' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,067.78	403.17
			For Metal Trim Strips, Add	189.33	
			For Snap-On Inlet Grille, Add	132.22	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	509.84	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0035	EA		32" High x 16' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,223.52	430.37
			For Metal Trim Strips, Add	201.37	
			For Snap-On Inlet Grille, Add	140.25	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	550.30	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0036	EA		32" High x 18' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,425.44	456.11
			For Metal Trim Strips, Add	213.39	
			For Snap-On Inlet Grille, Add	148.26	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	606.95	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0037	EA		32" High x 20' Long Multi-Fin Convector, 2-Pipe System With 6-1/4" Deep Cabinet	2,573.93	478.19
			For Metal Trim Strips, Add	223.25	
			For Snap-On Inlet Grille, Add	154.84	
			For Access Doors Hinged, Add	15.00	
			For Air Chamber, Auto-vent, Add	18.00	
			For 3 Tubes System, Add	647.41	
			For Knob Operated Damper, Add	15.00	
23 82 33 00-0038			Electric Convectors, Floor Standing Units (23 82 33)		
23 82 33 00-0039			4" Deep Electric Convectors (23 82 33 00-0038)		
23 82 33 00-0040	EA		38" Long x 14" High x 4" Deep Electric Convectors, Floor Standing Units	613.59	117.09
23 82 33 00-0041	EA		50" Long x 14" High x 4" Deep Electric Convectors, Floor Standing Units	679.53	117.09



Heating, Ventilating, and Air-Conditioning (HVAC)			23	23
Decentralized Unitary HVAC Equipment			23 80	
Convection Heating and Cooling Units			23 82	

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 33 00-0042			6" Deep Electric Convectors (23 82 33 00-0038)		
23 82 33 00-0043	EA		38" Long x 14" High x 6" Deep Electric Convectors, Floor Standing Units	709.96	117.09
23 82 33 00-0044	EA		50" Long x 14" High x 6" Deep Electric Convectors, Floor Standing Units	811.40	117.09
23 82 33 00-0045	EA		62" Long x 20" High x 6" Deep Electric Convectors, Floor Standing Units	900.16	117.09
23 82 33 00-0046	EA		74" Long x 20" High x 6" Deep Electric Convectors, Floor Standing Units	1,039.64	117.09
23 82 36			Finned-Tube Radiation Heaters (23 82)		
23 82 36 00-0001			Finned Tube Baseboard Units (23 82 36)		
			Note: Complete with steel enclosure. Single heating element.		
23 82 36 00-0002			3/4" IPS Steel Tube With Steel Fins (23 82 36 00-0001)		
23 82 36 00-0003	EA		4' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	365.73	43.47
			For 90 Degree Corner, Add	52.06	
			For Valve Enclosure, Add	52.06	
			For Filler Piece, Add	45.06	
			For End Cap, Add	35.34	
			For Copper Tube With Aluminum Fins, Add	8.55	
23 82 36 00-0004	EA		6' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	486.46	65.76
			For 90 Degree Corner, Add	60.67	
			For Valve Enclosure, Add	60.67	
			For Filler Piece, Add	53.67	
			For End Cap, Add	40.93	
			For Copper Tube With Aluminum Fins, Add	12.82	
23 82 36 00-0005	EA		8' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	589.51	86.94
			For 90 Degree Corner, Add	65.73	
			For Valve Enclosure, Add	65.73	
			For Filler Piece, Add	58.73	
			For End Cap, Add	44.23	
			For Copper Tube With Aluminum Fins, Add	17.10	
23 82 36 00-0006	EA		10' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	734.28	121.72
			For 90 Degree Corner, Add	79.55	
			For Valve Enclosure, Add	79.55	
			For Filler Piece, Add	72.55	
			For End Cap, Add	53.21	
			For Copper Tube With Aluminum Fins, Add	21.26	
23 82 36 00-0007	EA		12' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	878.11	146.24
			For 90 Degree Corner, Add	93.60	
			For Valve Enclosure, Add	93.60	
			For Filler Piece, Add	86.60	
			For End Cap, Add	62.34	
			For Copper Tube With Aluminum Fins, Add	25.31	
23 82 36 00-0008	EA		14' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	998.03	156.05
			For 90 Degree Corner, Add	99.17	
			For Valve Enclosure, Add	99.17	
			For Filler Piece, Add	92.17	
			For End Cap, Add	65.96	
			For Copper Tube With Aluminum Fins, Add	30.37	
23 82 36 00-0009	EA		16' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	1,100.06	172.44
			For 90 Degree Corner, Add	108.54	
			For Valve Enclosure, Add	108.54	
			For Filler Piece, Add	101.54	
			For End Cap, Add	72.05	
			For Copper Tube With Aluminum Fins, Add	33.41	
23 82 36 00-0010	EA		18' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	1,256.72	195.07
			For 90 Degree Corner, Add	121.46	
			For Valve Enclosure, Add	121.46	
			For Filler Piece, Add	114.46	
			For End Cap, Add	80.45	
			For Copper Tube With Aluminum Fins, Add	38.47	
23 82 36 00-0011	EA		20' Long Finned Tube Baseboard Unit Complete With Enclosure And 3/4" IPS Heat Element	1,386.14	214.57
			For 90 Degree Corner, Add	132.62	
			For Valve Enclosure, Add	132.62	
			For Filler Piece, Add	125.62	
			For End Cap, Add	87.71	
			For Copper Tube With Aluminum Fins, Add	42.52	
23 82 36 00-0012			1" IPS Steel Tube With Steel Fins (23 82 36 00-0001)		
23 82 36 00-0013	EA		4' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element	432.35	43.47
			For 90 Degree Corner, Add	52.06	
			For Valve Enclosure, Add	52.06	
			For Filler Piece, Add	45.06	
			For End Cap, Add	35.34	
			For Copper Tube With Aluminum Fins, Add	12.21	
23 82 36 00-0014	EA		6' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element	586.38	65.76
			For 90 Degree Corner, Add	60.67	
			For Valve Enclosure, Add	60.67	
			For Filler Piece, Add	53.67	
			For End Cap, Add	40.93	
			For Copper Tube With Aluminum Fins, Add	18.32	

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 36 00-0015	EA		8' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element	722.74	86.94
			For 90 Degree Corner, Add	65.73	
			For Valve Enclosure, Add	65.73	
			For Filler Piece, Add	58.73	
			For End Cap, Add	44.23	
			For Copper Tube With Aluminum Fins, Add	24.42	
23 82 36 00-0016	EA		10' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element	900.07	121.72
			For 90 Degree Corner, Add	79.58	
			For Valve Enclosure, Add	79.58	
			For Filler Piece, Add	72.58	
			For End Cap, Add	53.23	
			For Copper Tube With Aluminum Fins, Add	30.37	
23 82 36 00-0017	EA		12' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element	1,075.12	146.24
			For 90 Degree Corner, Add	93.56	
			For Valve Enclosure, Add	93.56	
			For Filler Piece, Add	86.56	
			For End Cap, Add	62.31	
			For Copper Tube With Aluminum Fins, Add	36.15	
23 82 36 00-0018	EA		14' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element	1,234.68	156.05
			For 90 Degree Corner, Add	99.17	
			For Valve Enclosure, Add	99.17	
			For Filler Piece, Add	92.17	
			For End Cap, Add	65.96	
			For Copper Tube With Aluminum Fins, Add	43.38	
23 82 36 00-0019	EA		16' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element	1,360.02	172.44
			For 90 Degree Corner, Add	108.47	
			For Valve Enclosure, Add	108.47	
			For Filler Piece, Add	101.47	
			For End Cap, Add	72.00	
			For Copper Tube With Aluminum Fins, Add	47.72	
23 82 36 00-0020	EA		18' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element	1,556.48	195.07
			For 90 Degree Corner, Add	121.46	
			For Valve Enclosure, Add	121.46	
			For Filler Piece, Add	114.46	
			For End Cap, Add	80.45	
			For Copper Tube With Aluminum Fins, Add	54.95	
23 82 36 00-0021	EA		20' Long Finned Tube Baseboard Unit Complete With Enclosure And 1" IPS Heat Element	1,716.78	214.57
			For 90 Degree Corner, Add	132.49	
			For Valve Enclosure, Add	132.49	
			For Filler Piece, Add	125.49	
			For End Cap, Add	87.62	
			For Copper Tube With Aluminum Fins, Add	60.74	
23 82 36 00-0022			1-1/4" IPS Steel Tube With Steel Fins (23 82 36 00-0001)		
23 82 36 00-0023	EA		4' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element	498.96	43.47
			For 90 Degree Corner, Add	52.06	
			For Valve Enclosure, Add	52.06	
			For Filler Piece, Add	45.06	
			For End Cap, Add	35.34	
			For Copper Tube With Aluminum Fins, Add	15.88	
23 82 36 00-0024	EA		6' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element	686.30	65.76
			For 90 Degree Corner, Add	60.67	
			For Valve Enclosure, Add	60.67	
			For Filler Piece, Add	53.67	
			For End Cap, Add	40.93	
			For Copper Tube With Aluminum Fins, Add	23.81	
23 82 36 00-0025	EA		8' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element	855.96	86.94
			For 90 Degree Corner, Add	65.73	
			For Valve Enclosure, Add	65.73	
			For Filler Piece, Add	58.73	
			For End Cap, Add	44.23	
			For Copper Tube With Aluminum Fins, Add	31.75	
23 82 36 00-0026	EA		10' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element	1,065.72	121.72
			For 90 Degree Corner, Add	79.58	
			For Valve Enclosure, Add	79.58	
			For Filler Piece, Add	72.58	
			For End Cap, Add	53.23	
			For Copper Tube With Aluminum Fins, Add	39.48	
23 82 36 00-0027	EA		12' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element	1,272.32	146.24
			For 90 Degree Corner, Add	93.56	
			For Valve Enclosure, Add	93.56	
			For Filler Piece, Add	86.56	
			For End Cap, Add	62.31	
			For Copper Tube With Aluminum Fins, Add	47.00	
23 82 36 00-0028	EA		14' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element	1,471.32	156.05
			For 90 Degree Corner, Add	99.17	
			For Valve Enclosure, Add	99.17	
			For Filler Piece, Add	92.17	
			For End Cap, Add	65.96	
			For Copper Tube With Aluminum Fins, Add	56.40	



Heating, Ventilating, and Air-Conditioning (HVAC)		23
Decentralized Unitary HVAC Equipment		23 80
Convection Heating and Cooling Units		23 82



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 36 00-0029	EA	16' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element..... For 90 Degree Corner, Add For Valve Enclosure, Add For Filler Piece, Add For End Cap, Add For Copper Tube With Aluminum Fins, Add	1,620.33 108.47 108.47 101.47 72.00 62.04	172.44
23 82 36 00-0030	EA	18' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element..... For 90 Degree Corner, Add For Valve Enclosure, Add For Filler Piece, Add For End Cap, Add For Copper Tube With Aluminum Fins, Add	1,856.23 121.46 121.46 114.46 80.45 71.44	195.07
23 82 36 00-0031	EA	20' Long Finned Tube Baseboard Unit Complete With Enclosure And 1-1/4" IPS Heat Element..... For 90 Degree Corner, Add For Valve Enclosure, Add For Filler Piece, Add For End Cap, Add For Copper Tube With Aluminum Fins, Add	2,048.08 132.49 132.49 125.49 87.62 78.96	214.57
23 82 36 00-0032		Electric Baseboard Heating (23 82 36) Note: Includes 24 gauge steel enclosure and heating element		
23 82 36 00-0033		Electric Wall Heating 10" Enclosure (23 82 36 00-0032)		
23 82 36 00-0034	LF	Electric Wall Heating, 10" Enclosure, Low Capacity Electric Unit, Element <250 Watts/FT	140.68	65.05
23 82 36 00-0035	LF	Electric Wall Heating, 10" Enclosure, Low Capacity Electric Unit, Element >= 250 Watts/FT	143.73	65.05
23 82 36 00-0036		Electric Wall Heating 16" Enclosure (23 82 36 00-0032)		
23 82 36 00-0037	LF	Electric Wall Heating, 16" Enclosure, Low Capacity Electric Unit, Element <350 Watts/FT	171.11	65.05
23 82 36 00-0038	LF	Electric Wall Heating, 16" Enclosure, Low Capacity Electric Unit, Element >= 350 Watts/FT	178.72	65.05
23 82 39		Unit Heaters (23 82)		
23 82 39 13		Cabinet Unit Heaters (23 82 39)		
23 82 39 13-0001		Electric Cabinet Unit Heaters (23 82 39 13) Note: Can be mounted on the ceiling, floor or wall. Includes built-in thermostat. 208, 240/208, 277, or 480 Volt.		
23 82 39 13-0002		Electric Cabinet Unit Heaters, 35" Cabinet Length (23 82 39 13-0001)		
23 82 39 13-0003	EA	2 KW, 250 CFM, 35" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,067.64	147.84
23 82 39 13-0004	EA	3 KW, 250 CFM, 35" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,091.97	147.84
23 82 39 13-0005	EA	4 KW, 250 CFM, 35" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,116.30	147.84
23 82 39 13-0006	EA	5 KW, 250 CFM, 35" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,140.61	147.84
23 82 39 13-0007	EA	6 KW, 250 CFM, 35" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,164.94	147.84
23 82 39 13-0008	EA	7 KW, 250 CFM, 35" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,189.27	147.84
23 82 39 13-0009	EA	8 KW, 250 CFM, 35" Electric Cabinet Unit Heater.....	3,214.56	147.84
23 82 39 13-0010	EA	For Ceiling Installation of 35" Cabinet Unit Heater, Add	197.51	98.17
23 82 39 13-0011		Electric Cabinet Unit Heaters, 45" Cabinet Length (23 82 39 13-0001)		
23 82 39 13-0012	EA	4 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,258.13	177.40
23 82 39 13-0013	EA	6 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,306.79	177.40
23 82 39 13-0014	EA	8 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,355.42	177.40
23 82 39 13-0015	EA	10 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,404.08	177.40
23 82 39 13-0016	EA	12 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,452.72	177.40
23 82 39 13-0017	EA	14 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,501.38	177.40
23 82 39 13-0018	EA	16 KW, 500 CFM, 45" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	3,550.02	177.40
23 82 39 13-0019	EA	For Ceiling Installation of 45" Cabinet Unit Heater, Add	236.54	118.27
23 82 39 13-0020		Electric Cabinet Unit Heaters, 58" Cabinet Length (23 82 39 13-0001)		
23 82 39 13-0021	EA	6 KW, 750 CFM, 58" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,089.58	236.54
23 82 39 13-0022	EA	8 KW, 750 CFM, 58" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,138.21	236.54
23 82 39 13-0023	EA	10 KW, 750 CFM, 58" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,186.87	236.54
23 82 39 13-0024	EA	12 KW, 750 CFM, 58" Electric Cabinet Unit Heater..... Note: Wall or floor mounted.	4,235.51	236.54

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 82 Convection Heating and Cooling Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 39 13-0025	EA	14 KW, 750 CFM, 58" Electric Cabinet Unit Heater Note: Wall or floor mounted.	4,284.17	236.54
23 82 39 13-0026	EA	16 KW, 750 CFM, 58" Electric Cabinet Unit Heater Note: Wall or floor mounted.	4,332.81	236.54
23 82 39 13-0027	EA	For Ceiling Installation of 58" Cabinet Unit Heater, Add	295.68	147.84
23 82 39 13-0028		Electric Cabinet Unit Heaters, 68" Cabinet Length (23 82 39 13-0001)		
23 82 39 13-0029	EA	6 KW, 750 CFM, 68" Electric Cabinet Unit Heater Note: Wall or floor mounted.	4,823.74	295.68
23 82 39 13-0030	EA	9 KW, 750 CFM, 68" Electric Cabinet Unit Heater Note: Wall or floor mounted.	4,896.71	295.68
23 82 39 13-0031	EA	12 KW, 750 CFM, 68" Electric Cabinet Unit Heater Note: Wall or floor mounted.	4,969.67	295.68
23 82 39 13-0032	EA	15 KW, 750 CFM, 68" Electric Cabinet Unit Heater Note: Wall or floor mounted.	5,042.64	295.68
23 82 39 13-0033	EA	18 KW, 750 CFM, 68" Electric Cabinet Unit Heater Note: Wall or floor mounted.	5,115.63	295.68
23 82 39 13-0034	EA	21 KW, 750 CFM, 68" Electric Cabinet Unit Heater Note: Wall or floor mounted.	5,188.60	295.68
23 82 39 13-0035	EA	24 KW, 750 CFM, 68" Electric Cabinet Unit Heater Note: Wall or floor mounted.	5,261.56	295.68
23 82 39 13-0036	EA	For Ceiling Installation of 68" Cabinet Unit Heater, Add	395.03	197.51
23 82 39 13-0037		Electric Cabinet Unit Heaters, 78" Cabinet Length (23 82 39 13-0001)		
23 82 39 13-0038	EA	8 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater Note: Wall or floor mounted.	5,655.18	354.82
23 82 39 13-0039	EA	12 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater Note: Wall or floor mounted.	5,752.48	354.82
23 82 39 13-0040	EA	16 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater Note: Wall or floor mounted.	5,849.77	354.82
23 82 39 13-0041	EA	20 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater Note: Wall or floor mounted.	5,947.07	354.82
23 82 39 13-0042	EA	24 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater Note: Wall or floor mounted.	6,044.36	354.82
23 82 39 13-0043	EA	28 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater Note: Wall or floor mounted.	6,141.66	354.82
23 82 39 13-0044	EA	32 KW, 1,000 CFM, 78" Electric Cabinet Unit Heater Note: Wall or floor mounted.	6,238.96	354.82
23 82 39 13-0045	EA	For Ceiling Installation of 78" Cabinet Unit Heater, Add	473.08	236.54
23 82 39 13-0046		Removal and Reinstallation of Cabinet Unit Heaters (23 82 39 13)		
		Note: Includes disconnection/reconnection of power and piping, storage, cleaning and reinstallation. Excludes removal and reinstallation of equipment supports.		
23 82 39 13-0047	EA	Removal And Reinstallation Of Up To 58" Cabinet Unit Heater, Floor or Wall.....	306.53	
23 82 39 13-0048	EA	Removal And Reinstallation Of >58" Cabinet Unit Heater, Floor or Wall	529.47	
23 82 39 13-0049	EA	Removal And Reinstallation Of Up To 58" Cabinet Unit Heater, Ceiling	632.01	
23 82 39 13-0050	EA	Removal And Reinstallation Of >58" Cabinet Unit Heater, Ceiling	854.94	
23 82 39 16		Propeller Unit Heaters (23 82 39)		
23 82 39 16-0001		Hydronic Unit Heaters Using Steam Or Hot Water (23 82 39 16)		
		Note: For use with either steam or heating hot water. Heating output capacities for both are listed.		
23 82 39 16-0002		Horizontal Hydronic Unit Heaters, Fan Propelled, 115 Volt (23 82 39 16-0001)		
23 82 39 16-0003	EA	18 MBH Steam, 13 MBH Hot Water, 395 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,001.14	111.47
23 82 39 16-0004	EA	24 MBH Steam, 17.4 MBH Hot Water, 450 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,003.26	111.47
23 82 39 16-0005	EA	36 MBH Steam, 26.1 MBH Hot Water, 550 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,125.27	111.47
23 82 39 16-0006	EA	48 MBH Steam, 34.8 MBH Hot Water, 750 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,363.73	167.20
23 82 39 16-0007	EA	60 MBH Steam, 43.6 MBH Hot Water, 900 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,426.15	167.20
23 82 39 16-0008	EA	72 MBH Steam, 52.3 MBH Hot Water, 1,100 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,519.10	167.20
23 82 39 16-0009	EA	84 MBH Steam, 61 MBH Hot Water, 2,400 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	1,813.57	222.93
23 82 39 16-0010	EA	96 MBH Steam, 69.7 MBH Hot Water, 2,400 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,000.85	222.93
23 82 39 16-0011	EA	108 MBH Steam, 78.4 MBH Hot Water, 2,800 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,120.03	222.93
23 82 39 16-0012	EA	120 MBH Steam, 87.1 MBH Hot Water, 2,900 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,216.50	222.93
23 82 39 16-0013	EA	132 MBH Steam, 95.8 MBH Hot Water, 2,000 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,489.69	278.67
23 82 39 16-0014	EA	144 MBH Steam, 104 MBH Hot Water, 2,200 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,522.34	278.67
23 82 39 16-0015	EA	156 MBH Steam, 113 MBH Hot Water, 2,600 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,553.55	278.67
23 82 39 16-0016	EA	180 MBH Steam, 118 MBH Hot Water, 2,200 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,703.27	334.40
23 82 39 16-0017	EA	204 MBH Steam, 148 MBH Hot Water, 2,900 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	2,947.30	334.40
23 82 39 16-0018	EA	240 MBH Steam, 174 MBH Hot Water, 3,500 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	3,358.28	390.13
23 82 39 16-0019	EA	280 MBH Steam, 209.1 MBH Hot Water, 4,200 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	4,242.17	390.13
23 82 39 16-0020	EA	300 MBH Steam, 230 MBH Hot Water, 5,000 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	4,498.25	445.87
23 82 39 16-0021	EA	360 MBH Steam, 261.3 MBH Hot Water, 5,500 CFM Unit Heater Fan Propelled, Horizontal, 115 Volt	5,406.27	445.87
23 82 39 16-0022	EA	Fan Guard For Fan Propelled Steam Unit Heater, Horizontal..... Note: Required only for unit heaters located within 7" of a working surface.	272.07	27.87
23 82 39 16-0023		Vertical Hydronic Unit Heaters, Fan Propelled, 115 Volt (23 82 39 16-0001)		
23 82 39 16-0024	EA	41.3 MBH Steam, 22.7 MBH Hot Water, 595 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	1,447.45	111.47



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 82 39 16-0025 EA 65.5 MBH Steam, 39.6 MBH Hot Water, 989 CFM Unit Heater Fan Propelled, Vertical, 115 Volt	1,514.83	167.20
23 82 39 16-0026 EA 80.6 MBH Steam, 48.4 MBH Hot Water, 1,200 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	1,637.56	167.20
23 82 39 16-0027 EA 101.8 MBH Steam, 68.3 MBH Hot Water, 1,490 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	2,005.12	222.93
23 82 39 16-0028 EA 124.4 MBH Steam, 83.7 MBH Hot Water, 1,790 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	2,125.70	222.93
23 82 39 16-0029 EA 152 MBH Steam, 105.2 MBH Hot Water, 2,220 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	2,484.77	334.40
23 82 39 16-0030 EA 173 MBH Steam, 118.6 MBH Hot Water, 2,620 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	2,669.22	334.40
23 82 39 16-0031 EA 210.2 MBH Steam, 139.7 MBH Hot Water, 3,200 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	2,823.88	334.40
23 82 39 16-0032 EA 249.8 MBH Steam, 180.1 MBH Hot Water, 4,180 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	3,146.87	390.13
23 82 39 16-0033 EA 283.8 MBH Steam, 205.4 MBH Hot Water, 4,430 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	3,329.91	390.13
23 82 39 16-0034 EA 333.4 MBH Steam, 242.9 MBH Hot Water, 5,210 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	3,700.19	390.13
23 82 39 16-0035 EA 386 MBH Steam, 280.8 MBH Hot Water, 6,140 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	4,260.70	501.59
23 82 39 16-0036 EA 496 MBH Steam, 368.1 MBH Hot Water, 8,020 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	5,492.20	501.59
23 82 39 16-0037 EA 585 MBH Steam, 431.1 MBH Hot Water, 9,450 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	5,869.60	501.59
23 82 39 16-0038 EA 705 MBH Steam, 519.4 MBH Hot Water, 11,000 CFM Unit Heater Fan Propelled, Vertical, 115 Volt.....	6,687.62	557.32
23 82 39 16-0039 EA Fan Guard For Fan Propelled Steam Unit Heater, Vertical.....	377.06	27.87

Note: Required only for unit heaters located within 7' of a working surface.

23 82 39 16-0040

Removal and Reinstallation of Propeller Unit Heaters (23 82 39 16)

Note: Includes disconnection/reconnection of power and piping, storage, cleaning and reinstallation. Excludes removal and reinstallation of equipment supports.

23 82 39 16-0041 EA Removal And Reinstallation Of Up To 120 MBH Steam, 87.1 MBH Hot Water Hydronic Unit Heater, Horizontal or Vertical	668.79
23 82 39 16-0042 EA Removal And Reinstallation Of >120 MBH Steam, 87.1 MBH Hot Water Hydronic Unit Heater, Horizontal or Vertical	891.72

23 82 39 19

Wall and Ceiling Unit Heaters (23 82 39)

23 82 39 19-0001

Electric Unit Heaters (23 82 39 19)

Note: May be mounted both vertically and horizontally.

23 82 39 19-0002 EA 3 KW, 350 CFM Electric Unit Heater, 208, 240/208, or 277 Volt	885.86	118.27
23 82 39 19-0003 EA 5 KW, 350 CFM Electric Unit Heater, 208, 240/208, or 277 Volt	885.86	118.27
23 82 39 19-0004 EA 7.5 KW, 650 CFM Electric Unit Heater, 208, 240/208, or 277 Volt	1,189.44	147.84
23 82 39 19-0005 EA 10 KW, 650 CFM Electric Unit Heater, 208, 240/208, or 277 Volt	1,363.37	177.40
23 82 39 19-0006 EA 15 KW, 910 CFM Electric Unit Heater, 208, 240/208, or 277 Volt	1,991.79	236.54
23 82 39 19-0007 EA 20 KW, 1,320 CFM Electric Unit Heater, 208, 240/208, 277, or 480 Volt	2,906.70	295.68
23 82 39 19-0008 EA 30 KW, 2,100 CFM Electric Unit Heater, Two speed; 208, 240/208, 277, or 480 Volt	4,017.83	354.82
23 82 39 19-0009 EA 50 KW, 3,000 CFM Electric Unit Heater, Two speed; 208, 240/208, 277, or 480 Volt	5,884.47	413.95
23 82 39 19-0010 EA 3 KW, 350 CFM Electric Unit Heater - 480 Volt	1,096.95	118.27
23 82 39 19-0011 EA 5 KW, 350 CFM Electric Unit Heater - 480 Volt	1,055.74	118.27
23 82 39 19-0012 EA 7.5 KW, 650 CFM Electric Unit Heater - 480 Volt	1,249.77	147.84
23 82 39 19-0013 EA 10 KW, 650 CFM Electric Unit Heater - 480 Volt	1,441.85	177.40
23 82 39 19-0014 EA 15 KW, 910 CFM Electric Unit Heater - 480 Volt	2,148.76	236.54

23 82 39 19-0015

Electric Ceiling and Wall Heaters (23 82 39 19)

Note: The "/" between wattages indicates two or three speed operation. 120, 240/208 or 277 Volt.

23 82 39 19-0016 EA 1,000, 1,500 Or 2,000 Watt Recessed Electric Wall Heater	403.12	73.92
23 82 39 19-0017 EA 1,500/750 Or 2,000/1,000 Watt Recessed Electric Wall Heater	472.01	82.79
23 82 39 19-0018 EA 3,000, 3,600, 4,000 Or 4,800 Watt Recessed Electric Wall Heater	742.76	82.79
23 82 39 19-0019 EA 1,000, 1,500 Or 2,000 Watt Surface Mounted Electric Wall Heater	458.72	73.92
23 82 39 19-0020 EA 1,500/750 Or 2,000/1,000 Watt Surface Mounted Electric Wall Heater	559.77	82.79
23 82 39 19-0021 EA 3,000, 3,600, 4,000 Or 4,800 Watt Surface Mounted Electric Wall Heater	845.83	82.79
23 82 39 19-0022 EA 1,000, 1,500 Or 2,000/1,500 Watt Recessed Electric Ceiling Heater	603.27	97.57
23 82 39 19-0023 EA 3,000, 4,000 Or 4,000/3,000 Watt Recessed Electric Ceiling Heater	1,132.13	103.48
23 82 39 19-0024 EA 4,800/3,600 Watt Recessed Electric Ceiling Heater	1,275.21	103.48
23 82 39 19-0025 EA 4,000/3,000/2,000 Watt Recessed Or Surface Mounted Electric Ceiling Heater	1,481.28	109.40
23 82 39 19-0026 EA 5,000/3,800/2,500 Watt Recessed Or Surface Mounted Electric Ceiling Heater	1,606.91	109.40
23 82 39 19-0027 EA 1,000, 1,500 Or 2,000/1,500 Watt Surface Mounted Electric Ceiling Heater	677.58	97.57
23 82 39 19-0028 EA 3,000, 4,000 Or 4,000/3,000 Watt Surface Mounted Electric Ceiling Heater	1,249.20	103.48
23 82 39 19-0029 EA 4,800/3,600 Watt Surface Mounted Electric Ceiling Heater	1,392.28	103.48
23 82 39 19-0030 EA Selectable Wattage (500 Or 750 Or 1000 Or 1,250 Or 1,500 Or 1,750 Or 2,250 Watt), 240 Volt, Surface Mounted, Electric Wall Heater (Market Series 305 - Model H30522TDWB)	652.56	73.92

23 82 39 19-0031

Removal And Reinstallation Of Electric Unit Heaters (23 82 39 19)

Note: Includes disconnection/reconnection of power and piping, storage, cleaning and reinstallation. Excludes removal and reinstallation of equipment supports.

23 82 39 19-0032 EA Removal And Reinstallation Of Up To 15KW Electric Unit Heater	401.30
23 82 39 19-0033 EA Removal And Reinstallation Of >15 KW Electric Unit Heater	824.94

23 83 Radiant Heating Units (23 80)

23 83 13 Radiant-Heating Electric Cables (23 83)

23 83 13 13 Radiant-Heating Electric Cables (23 83 13)

23 83 13 13-0001

Self Regulating Heating Cable (23 83 13 13)

23 83 13 13-0002 LF 3 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable	9.13	0.86

Note: Tinned copper braid, at 50 Degrees F.

23 Heating, Ventilating, and Air-Conditioning (HVAC)**23 80 Decentralized Unitary HVAC Equipment****23 83 Radiant Heating Units**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
23 83 13 13-0003	LF	5 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable Note: Tinned copper braid, at 50 degrees F.	9.74	0.86
23 83 13 13-0004	LF	8 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable Note: Tinned copper braid, at 50 degrees F.	10.17	0.86
23 83 13 13-0005	LF	3 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable Note: Tinned copper braid, at 50 degrees F.	9.13	0.86
23 83 13 13-0006	LF	5 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable Note: Tinned copper braid, at 50 degrees F.	10.77	0.86
23 83 13 13-0007	LF	8 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable Note: Tinned copper braid, at 50 degrees F.	11.38	0.86
23 83 13 13-0008	LF	3 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions Note: Tinned copper braid, at 50 Degrees F.	11.36	0.86
23 83 13 13-0009	LF	5 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions Note: Tinned copper braid, at 50 degrees F.	11.65	0.86
23 83 13 13-0010	LF	8 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions Note: Tinned copper braid, at 50 degrees F.	11.93	0.86
23 83 13 13-0011	LF	3 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions Note: Tinned copper braid, at 50 degrees F.	11.36	0.86
23 83 13 13-0012	LF	5 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions Note: Tinned copper braid, at 50 degrees F.	11.65	0.86
23 83 13 13-0013	LF	8 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPR Overjacket For Protection Against Inorganic Chemical Solutions Note: Tinned copper braid, at 50 degrees F.	11.93	0.86
23 83 13 13-0014	LF	3 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments..... Note: Tinned copper braid, at 50 Degrees F.	14.17	0.86
23 83 13 13-0015	LF	5 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments..... Note: Tinned copper braid, at 50 degrees F.	14.73	0.86
23 83 13 13-0016	LF	8 Watt, 120 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments..... Note: Tinned copper braid, at 50 degrees F.	15.01	0.86
23 83 13 13-0017	LF	3 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments..... Note: Tinned copper braid, at 50 degrees F.	14.17	0.86
23 83 13 13-0018	LF	5 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments..... Note: Tinned copper braid, at 50 degrees F.	14.73	0.86
23 83 13 13-0019	LF	8 Watt, 240 Volt, Self Regulating Low Temperature Heating Cable With TPE Overjacket For Hostile/Corrosive Environments..... Note: Tinned copper braid, at 50 degrees F.	15.01	0.86
23 83 13 13-0020	EA	Power Connection Kit With Pre-set Thermostat For Self Regulating Low Temperature Heating Cable	326.50	67.76
23 83 13 13-0021	EA	Splice And Tee Kit For Self Regulating Low Temperature Heating Cable	326.50	67.76
23 83 13 13-0022	EA	End Seal Kit For Self Regulating Low Temperature Heating Cable	215.62	12.32
23 83 13 13-0023	EA	Ambient Air Sensing Thermostat For Self Regulating Low Temperature Heating Cable	584.59	30.80
23 83 13 13-0024	EA	Mechanical Or Electrical Line Sensing Thermostat For Self Regulating Low Temperature Heating Cable	644.01	30.80

23 84 Humidity Control Equipment (23 80)**23 84 13 Humidifiers** (23 84)**23 84 13 16 Wetted-Element Humidifiers** (23 84 13)**23 84 13 16-0001 Electric Steam Humidifiers, Self-Steam Producing** (23 84 13 16)

Note: Electronic modulating duct or air handling unit installation 208V-108V with 12" to 72" manifolds included.

23 84 13 16-0002	EA	1-96 LB/Hour Electric Steam Humidifier, Self-Steam Producing With 12-72" Manifold.....	12,974.95	459.24
23 84 13 16-0003	EA	20-168 LB/Hour Electric Steam Humidifier, Self-Steam Producing With 12-72" Manifold.....	16,469.74	460.35

23 84 13 23 Direct-Steam-Injection Humidifiers (23 84 13)**23 84 13 23-0001 Steam Type Pneumatically Controlled** (23 84 13 23)

Note: For duct or air handling installation standard unit with integral operator distribution manifold strainer trap and pneumatic modulating valve. Excludes humidistat and piping.

23 84 13 23-0002	EA	3-191 LB/Hour Steam Humidifier, 24" Manifold, Pneumatic Controls	2,063.16	294.26
		For Electrically Controlled Unit, Add	700.00	
		For Each Additional Manifold, Add	633.81	
23 84 13 23-0003	EA	3-191 LB/Hour Steam Humidifier, 48" Manifold, Pneumatic Controls	2,063.16	294.26
		For Electrically Controlled Unit, Add	700.00	
		For Each Additional Manifold, Add	633.81	
23 84 13 23-0004	EA	65-334 LB/Hour Steam Humidifier, 36" Manifold, Pneumatic Controls	2,982.65	294.26
		For Electrically Controlled Unit, Add	700.00	
		For Each Additional Manifold, Add	909.66	
23 84 13 23-0005	EA	65-334 LB/Hour Steam Humidifier, 72" Manifold, Pneumatic Controls	3,094.10	367.84
		For Electrically Controlled Unit, Add	700.00	
		For Each Additional Manifold, Add	946.81	
23 84 13 23-0006	EA	100-690 LB/Hour Steam Humidifier, 48" Manifold, Pneumatic Controls	4,494.54	294.26
		For Electrically Controlled Unit, Add	700.00	
		For Each Additional Manifold, Add	1,363.22	



Heating, Ventilating, and Air-Conditioning (HVAC)		23	23
Decentralized Unitary HVAC Equipment		23 80	
Humidity Control Equipment		23 84	

MINOR		DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
CSI	UOM			
23 84 13 23-0007	EA	100-690 LB/Hour Steam Humidifier, 84" Manifold, Pneumatic Controls <i>For Electrically Controlled Unit, Add</i> <i>For Each Additional Manifold, Add</i>	4,605.99 700.00 1,400.37	367.84
23 84 13 23-0008	EA	220-2,000 LB/Hour Steam Humidifier, 72" Manifold, Pneumatic Controls <i>For Electrically Controlled Unit, Add</i> <i>For Each Additional Manifold, Add</i>	6,968.31 700.00 2,109.07	367.84
23 84 13 23-0009	EA	220-2,000 LB/Hour Steam Humidifier, 144" Manifold, Pneumatic Controls <i>For Electrically Controlled Unit, Add</i> <i>For Each Additional Manifold, Add</i>	7,107.65 700.00 2,155.52	460.35
23 84 13 29 Self-Contained Steam Humidifiers (23 84 13)				
23 84 13 29-0001		Residential Humidifiers (23 84 13 29) Note: Includes solenoid valve and flow through water supply.		
23 84 13 29-0002	EA	Duct Or Furnace Mounted Humidifier, Residential Type.....	586.37	55.73
23 84 16 Mechanical Dehumidification Units (23 84)				
23 84 16 16 Indoor, Mechanical Dehumidification Units (23 84 16)				
23 84 16 16-0001		Mechanical Dehumidification Units (23 84 16 16) Note: Sized by moisture removal per 24 hours.		
23 84 16 16-0002	EA	65 Pint Per Day, 160 CFM, 8" Duct Connection, Refrigerant Dehumidifier.....	2,307.19	59.13
23 84 16 16-0003	EA	90 Pint Per Day, 235 CFM, 10"/6" Duct Connection, Refrigerant Dehumidifier.....	2,904.43	68.98
23 84 16 16-0004	EA	120 Pint Per Day, 350 CFM, 10"/6" Duct Connection, Refrigerant Dehumidifier.....	3,897.39	78.85
23 84 16 33 Portable Dehumidifiers (23 84 16)				
23 84 16 33-0001		Self Contained Free Standing Unit (23 84 16 33) Note: Sized by moisture removal per 24 hours.		
23 84 16 33-0002	EA	30 Pint/24 Hour Dehumidifier.....	513.94	127.99
23 84 16 33-0003	EA	50 Pint/24 Hour Dehumidifier.....	621.21	127.99
23 84 16 33-0004	EA	70 Pint/24 Hour Dehumidifier.....	685.58	127.99

END OF SECTION 23

23	23	Heating, Ventilating, and Air-Conditioning (HVAC)
	23 80	Decentralized Unitary HVAC Equipment
	23 84	Humidity Control Equipment



MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST

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Integrated Automation		25	25
Integrated Automation Facility Controls		25 50	
Integrated Automation Control of HVAC		25 55	

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT	DEMOLITION
			UNIT COST	UNIT COST

25 Integrated Automation

25 50 Integrated Automation Facility Controls (25)

25 55 Integrated Automation Control of HVAC (25 50)

See CSI section 23 09 00 00-0000 for Instrumentation And Control For HVAC.

END OF SECTION 25

25	25	Integrated Automation
	25 50	Integrated Automation Facility Controls
	25 55	Integrated Automation Control of HVAC



MINOR			TOTAL DIRECT		DEMOLITION
CSI	UOM	DESCRIPTION	UNIT COST		UNIT COST

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MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

26 Electrical

Note: Termination costs are included with all electrical equipment, panel boards, fixtures and devices. Terminations are not included with patch panels. Electrical equipment and lighting shall conform to California Title 24.

26 01 Operation and Maintenance of Electrical Systems ⁽²⁶⁾

26 01 10 Operation and Maintenance of Medium-Voltage Electrical Distribution ^(26 01)

26 01 10 91 Medium-Voltage Electrical Distribution Restoration ^(26 01 10)

26 01 10 91-0001	Retrofit Distribution Enclosures ^(26 01 10 91) Note: Includes removal of equipment housing, punch or drill hole for window, touch-up area, and reinstallation of equipment housing.	
26 01 10 91-0002	EA 2" Infrared Window Installed In Medium Voltage Equipment, NEMA Type 3/12 Rated (Flir IRW-2C) Note: 2mm thick, aluminum frame, hinged cover.	482.94
	For Up To 20, Add	101.80
	For >20 To 50, Add	81.44
	For >50 To 100, Add	40.72
26 01 10 91-0003	EA 3" Infrared Window Installed In Medium Voltage Equipment, NEMA Type 3/12 Rated (Flir IRW-3C) Note: 2mm thick, aluminum frame, hinged cover.	628.89
	For Up To 20, Add	138.28
	For >20 To 50, Add	110.63
	For >50 To 100, Add	55.31
26 01 10 91-0004	EA 4" Infrared Window Installed In Medium Voltage Equipment, NEMA Type 3/12 Rated (Flir IRW-4C) Note: 4mm thick, aluminum frame, hinged cover.	949.96
	For Up To 20, Add	218.55
	For >20 To 50, Add	174.84
	For >50 To 100, Add	87.42
26 01 10 91-0006	EA 2" Infrared Window Installed In Medium Voltage Equipment, NEMA Type 3/12 Rated (Fluke CLKT-2) Note: 2mm thick, aluminum frame, twist cover.	481.35
	For Up To 20, Add	101.40
	For >20 To 50, Add	81.12
	For >50 To 100, Add	40.56
26 01 10 91-0007	EA 3" Infrared Window Installed In Medium Voltage Equipment, NEMA Type 3/12 Rated (Fluke CLKT-3) Note: 2mm thick, aluminum frame, twist cover.	617.00
	For Up To 20, Add	135.31
	For >20 To 50, Add	108.25
	For >50 To 100, Add	54.12
26 01 10 91-0008	EA 4" Infrared Window Installed In Medium Voltage Equipment, NEMA Type 3/12 Rated (Fluke CLKT-4) Note: 4mm thick, aluminum frame, twist cover.	923.57
	For Up To 20, Add	211.95
	For >20 To 50, Add	169.56
	For >50 To 100, Add	84.78
26 01 10 91-0009	EA 2" Infrared Window Pane Installed In Medium Voltage Equipment, NEMA Type 4 Rated (Schneider Electric VPFR) Note: 0.25mm thick, composite frame, metal grille reinforced polymer.	377.86
	For Up To 20, Add	75.53
	For >20 To 50, Add	60.42
	For >50 To 100, Add	30.21
26 01 10 91-0010	EA 3" Infrared Window Pane Installed In Medium Voltage Equipment, NEMA Type 4 Rated (Schneider Electric VPFR) Note: 0.25mm thick, composite frame, metal grille reinforced polymer.	535.48
	For Up To 20, Add	114.93
	For >20 To 50, Add	91.94
	For >50 To 100, Add	45.97
26 01 10 91-0011	EA 4" Infrared Window Pane Installed In Medium Voltage Equipment, NEMA Type 4 Rated (Schneider Electric VPFR) Note: 0.25mm thick, composite frame, metal grille reinforced polymer.	765.35
	For Up To 20, Add	172.40
	For >20 To 50, Add	137.92
	For >50 To 100, Add	68.96
26 01 10 91-0012	EA 2" Infrared Window Installed In Medium Voltage Equipment, Longwave, NEMA Type 4 Rated (Schneider Electric IRHVIR) Note: 4mm thick, aluminum frame, magnetic cover.	697.14
	For Up To 20, Add	155.35
	For >20 To 50, Add	124.28
	For >50 To 100, Add	62.14
26 01 10 91-0013	EA 3" Infrared Window Installed In Medium Voltage Equipment, Longwave, NEMA Type 4 Rated (Schneider Electric IRHVIR) Note: 4mm thick, aluminum frame, magnetic cover.	960.85
	For Up To 20, Add	221.27
	For >20 To 50, Add	177.02
	For >50 To 100, Add	88.51
26 01 10 91-0014	EA 4" Infrared Window Installed In Medium Voltage Equipment, Longwave, NEMA Type 4 Rated (Schneider Electric IRHVIR) Note: 4mm thick, aluminum frame, magnetic cover.	1,766.30
	For Up To 20, Add	422.64
	For >20 To 50, Add	338.11
	For >50 To 100, Add	169.05

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 10 Operation and Maintenance of Medium-Voltage Electrical Distribution**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 10 91-0015	EA	3" Infrared Window Installed In Medium Voltage Equipment, Shortwave, NEMA Type 4 Rated (Schneider Electric IRHVIR) Note: 4mm thick, aluminum frame, magnetic cover.	801.96	
		For Up To 20, Add	181.55	
		For >20 To 50, Add	145.24	
		For >50 To 100, Add	72.62	
26 01 10 91-0016	EA	4" Infrared Window Installed In Medium Voltage Equipment, Shortwave, NEMA Type 4 Rated (Schneider Electric IRHVIR) Note: 4mm thick, aluminum frame, magnetic cover.	1,183.79	
		For Up To 20, Add	277.01	
		For >20 To 50, Add	221.61	
		For >50 To 100, Add	110.80	
26 01 10 99		Medium-Voltage Electrical Distribution, Facilities Maintenance and Repair (26 01 10 99)		
26 01 10 99-0001		Liquid Filled Primary Transformer (26 01 10 99) Note: Includes all required small tools and equipment.		
26 01 10 99-0002		Repair 500 KVA Liquid Filled Primary Transformer (26 01 10 99-0001)		
26 01 10 99-0003	EA	Remove Transformer Component, Repair 500 KVA Liquid Filled Primary Transformer	122.22	
26 01 10 99-0004	EA	Install New Transformer Component, Repair 500 KVA Liquid Filled Primary Transformer	2,747.71	
26 01 10 99-0005		Maintenance And Inspection, Liquid Filled Primary Transformer (26 01 10 99-0001)		
26 01 10 99-0006	EA	Test Energized Transformer, Maintenance And Inspection, Liquid Filled Primary Transformer	61.11	
26 01 10 99-0007		Replace 500 KVA Liquid Filled Primary Transformer (26 01 10 99-0001)		
26 01 10 99-0008	EA	Remove Transformer, Replace 500 KVA Liquid Filled Primary Transformer	1,809.21	
26 01 10 99-0009	EA	Install New 5 KV Primary, 277/480 Volt Secondary, Replace 500 KVA Liquid Filled Primary Transformer	45,349.72	
26 01 10 99-0010		Switchgear, Mainframe (26 01 10 99) Note: Includes all required small tools and equipment.		
26 01 10 99-0011		Repair 1,200 Amp Switchgear (26 01 10 99-0010)		
26 01 10 99-0012	EA	Remove Relay, Repair 1,200 Amperes Switchgear	208.02	
26 01 10 99-0013	EA	Install New Relay, Repair 1,200 Amperes Switchgear	1,907.62	
26 01 10 99-0014		Maintenance And Inspection, Mainframe Switchgear (26 01 10 99-0010)		
26 01 10 99-0015	EA	Check And Retighten Switchgear Connections, Maintenance And Inspection, Mainframe Switchgear	97.78	
26 01 10 99-0016		Replace 1,200 Amp Switchgear (26 01 10 99-0010)		
26 01 10 99-0017	EA	Remove 1,200 Amperes Switchgear, Replace 1,200 Amperes Switchgear	733.34	
26 01 10 99-0018	EA	Install New 1,200 Amperes Switchgear, Replace 1,200 Amperes Switchgear	4,455.84	
26 01 10 99-0019	EA	Test Switchgear, Replace 1,200 Amperes Switchgear	244.45	
26 01 10 99-0020		500kVA And Over, Dry Type Transformer Preventative Maintenance (26 01 10 99) Note: Includes all required small tools and equipment.		
26 01 10 99-0021	EA	Annual Preventative Maintenance For 500kVA And Over, Dry Type Transformer	112.87	
		Note: 1. Examine Exterior Of Transformer For Any Damage. 2. Remove Covers Or Open Doors. 3. Check For Signs Of Moisture Or Overheating. 4. Check For Voltage Creeping Over Insulated Surfaces, Such As Evidenced By Tracking Or Carbonization. 5. Check Fans, Motors And Other Auxiliary Devices For Proper Operation; Where Applicable. 6. Check Condition Of Ground System. 7. Reinstall Covers Or Close Doors. 8. Fill Out Maintenance Checklist And Report Deficiencies.		
26 01 10 99-0022		Pad Mounted Oil Transformer Preventative Maintenance (26 01 10 99) Note: Includes all required small tools and equipment.		
26 01 10 99-0023	EA	Annual Preventative Maintenance For Pad Mounted Oil Transformer	173.38	
		Note: 1. Examine Exterior Of Transformer For Any Damage, Cracks, Rust And Leaks; Check Around Bushings, Gasket And Pressure Relief Device. 2. Check Condition Of Ground System. 3. Check And Record Oil Level, Pressure And Temperature Readings. 4. Check Fans, Motors And Other Auxiliary Devices For Proper Operation; Where Applicable. 5. Draw Oil Sample From Top Of Transformer And Have Sample Tested For Dielectric Strength; Add Oil To Replace Sample Taken. 6. Clean Transformer Exterior And Surrounding Area. 7. Fill Out Maintenance Checklist And Report Deficiencies.		
26 01 10 99-0024		PCB Pad Mounted Oil Transformer Preventative Maintenance (26 01 10 99) Note: Includes all required small tools and equipment.		



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 10 99-0025	EA	Annual Preventative Maintenance For PCB Pad Mounted Oil Transformer Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Examine Exterior Of The Transformer For Any Damage, Cracks, Rust And Leaks; Check Around Gaskets, Pressure Relief Device And Cooling Fins. 3. Check And Record Oil Level, Pressure And Temperature Readings. 4. Check Fans, Motors And Other Auxiliary Devices For Proper Operation; Where Applicable. 5. Check Exterior Bushings For Leaking Oil. 6. Check Condition Of Ground System. 7. Draw Oil Sample From Top Of Transformer And Have Sample Tested; Add Oil To Replace Sample Taken. 8. Clean Transformer Exterior And Surrounding Area. 9. Verify PCB Warning Markings Are Intact And Clearly Visible 10. Fill Out Maintenance Checklist And Report Deficiencies. 11. EPA Regulations Under 40 CFR 716.30 Shall Apply To All Inspections, Samples, Disposal, Cleanups, Decontamination, Reporting And Record Keeping.	223.73	
26 01 20 Operation and Maintenance of Low-Voltage Electrical Distribution (26 01)				
26 01 20 91 Low-Voltage Electrical Distribution Restoration (26 01 20)				
26 01 20 91-0001		Lock Out/Tag Out Devices (26 01 20 91) Note: Includes following OSHA procedures and completing Owner's paperwork. Excludes circuit tracing.		
26 01 20 91-0002	EA	Lock Out/Tag Out Local Disconnect Note: Excludes tag or padlock See CSI section 26 01 20 91-0004 for padlock, 26 01 20 91-0005 for tag(s).	44.35	
26 01 20 91-0003	EA	Lock Out/Tag Out Breaker Or Motor Starter Note: Excludes tag or padlock See CSI section 26 01 20 91-0004 for padlock, 26 01 20 91-0005 for tag(s).	44.35	
26 01 20 91-0004	EA	Lock Out Padlock Device Note: Includes the installation and removal of pad lock when required	12.32	
26 01 20 91-0005	EA	Lock Out Tags Note: Includes filling out tag information, installation and removal of identifying tags.	5.11	
26 01 20 91-0006		Existing Circuit Tracing (26 01 20 91)		
26 01 20 91-0007	EA	Motors, Disconnects And Other Single Source Devices, Existing Circuit Tracing Per Device	25.63	
26 01 20 91-0008	EA	Lighting, Existing Circuit Tracing Per Circuit	25.63	
26 01 20 99 Low-Voltage Electrical Distribution, Facilities Maintenance and Repair (26 01 20)				
Note: The Maintenance & Repair section is a listing of common maintenance tasks performed at facilities. Under the System Description column, each task, including its components, is described. Labor-hours have been enhanced, where appropriate, to include setup and delay time. In some cases, the list of steps comprising the task includes most of the potential repairs that could be made on a system. For those tasks, individual items, as appropriate, can be selected from the all-encompassing list.				
26 01 20 99-0001		Electrical Service/Distribution (26 01 20 99) Note: Includes all required small tools and equipment.		
26 01 20 99-0002		Dry Primary Transformer (26 01 20 99-0001)		
26 01 20 99-0003		Repair 15 KV Dry Primary Transformer (26 01 20 99-0002)		
26 01 20 99-0004	EA	Repair Transformer Terminal (For Repair 15 KV Dry Primary Transformer)	312.91	
26 01 20 99-0005		Maintenance And Inspection, Dry Primary Transformer (26 01 20 99-0002)		
26 01 20 99-0006	EA	Test Energized Transformer (For Maintenance And Inspection, Dry Primary Transformer)	61.11	
26 01 20 99-0007		Replace 15 KV Dry Primary Transformer (26 01 20 99-0002)		
26 01 20 99-0008	EA	Remove Transformer (For Replace 15 KV Dry Primary Transformer)	1,809.21	
26 01 20 99-0009	EA	Install New 500 KVA, 277/480 Volt Secondary (For Replace 15 KV Dry Primary Transformer)	43,382.49	
26 01 20 99-0010		Fuses (26 01 20 99-0001)		
26 01 20 99-0011		Replace Fuse (26 01 20 99-0010)		
26 01 20 99-0012	EA	Remove Fuse (For Replace Fuse)	18.46	
26 01 20 99-0013	EA	Install New Fuse 600 Amp (For Replace Fuse)	479.33	
26 01 20 99-0014		Less Than 600 Volt Indoor Switchgear (26 01 20 99-0001)		
26 01 20 99-0015		Repair (5% Of Total Circuit Breaker) Less Than 600 Volt Indoor Switchgear (26 01 20 99-0014)		
26 01 20 99-0016	EA	Remove Circuit Breaker (For Repair (5% Of Total Circuit Breaker) Less Than 600 Volt Indoor Switchgear)	48.89	
26 01 20 99-0017	EA	Install New Circuit Breaker (For Repair (5% Of Total Circuit Breaker) Less Than 600 Volt Indoor Switchgear)	819.07	
26 01 20 99-0018		Maintenance And Inspection, Less Than 600 Volt Indoor Switchgear (26 01 20 99-0014)		
26 01 20 99-0019	EA	Inspect And Clean Panel (For Maintenance And Inspection, Less Than 600 Volt Indoor Switchgear)	61.11	
26 01 20 99-0020		Replace 225 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear (26 01 20 99-0014)		
26 01 20 99-0021	EA	Remove 4 Wire, 120/208 Volt, Panel Board (For Replace 225 AMP Switchgear, Less Than 600 Volt Indoor Switchgear)	488.89	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 20 Operation and Maintenance of Low-Voltage Electrical Distribution**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 20 99-0022	EA	Install New 4 Wire, 120/208 Volt, 225 Amp Main Circuit Breaker, Panel Board (For Replace 225 AMP Switchgear, Less Than 600 Volt Indoor Switchgear).....	2,045.37	
26 01 20 99-0023	EA	Test Circuits (For Replace 225 AMP Switchgear, Less Than 600 Volt Indoor Switchgear).....	184.44	
26 01 20 99-0024		Replace 400 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear (26 01 20 99-0014)		
26 01 20 99-0025	EA	Turn Power Off, Later Turn On (For Replace 400 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	24.44	
26 01 20 99-0026	EA	Remove 4 Wire, 120/208 Volt, 100 Amp, Panel Board (For Replace 400 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	407.37	
26 01 20 99-0027	EA	Remove 4 Wire, 120/208 Volt, 400 Amp, Panel Board (For Replace 400 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	1,018.49	
26 01 20 99-0028	EA	Install New 100 Amp Main Circuit Breaker, 4 Wire, 120/208 Volt, Panel Board (For Replace 400 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	6,699.02	
26 01 20 99-0029	EA	Install New 400 Amp Main Circuit Breaker, 4 Wire, 120/208 Volt, Panel Board (For Replace 400 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	11,029.54	
26 01 20 99-0030	EA	Test Circuits (For Replace 400 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	17.72	
26 01 20 99-0031		Replace 600 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear (26 01 20 99-0014)		
26 01 20 99-0032	EA	Turn Power Off, Later Turn On (For Replace 600 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	36.67	
26 01 20 99-0033	EA	Remove 4 Wire, 120/208 Volt, 200 Amp, Panel Board (For Replace 600 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	814.86	
26 01 20 99-0034	EA	Remove Incoming Section (For Replace 600 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	592.54	
26 01 20 99-0035	EA	Remove Distribution Section (For Replace 600 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	488.89	
26 01 20 99-0036	EA	Install New 225 Amp Main Circuit Breaker, 4 Wire, 120/208 Volt, Panel Board (For Replace 600 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	6,678.33	
26 01 20 99-0037	EA	Install New Incoming Section, 600 Amp (For Replace 600 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	7,116.69	
26 01 20 99-0038	EA	Install New Distribution Section, 600 Amp (For Replace 600 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	3,609.91	
26 01 20 99-0039	EA	Test Circuits (For Replace 600 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	26.64	
26 01 20 99-0040		Replace 800 Amp Switchgear, Less Than 600 Volt Indoor Switchgear (26 01 20 99-0014)		
26 01 20 99-0041	EA	Turn Power Off, Later Turn On (For Replace 800 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	48.89	
26 01 20 99-0042	EA	Remove 4 Wire, 120/208 Volt, 200 Amperes, 2 Panel Boards (For Replace 800 Amp Switchgear, Less Than 600 Volt Indoor Switchgear).....	1,629.61	
26 01 20 99-0043	EA	Remove Incoming Section (For Replace 800 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	674.31	
26 01 20 99-0044	EA	Remove Distribution Section (For Replace 800 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	543.16	
26 01 20 99-0045	EA	Install New 225 Amperes Main Lugs, 4 Wire, 120/208 Volt, 2 Panel Boards (For Replace 800 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	12,974.78	
26 01 20 99-0046	EA	Install New Incoming Section, 800 Amperes (For Replace 800 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	7,383.38	
26 01 20 99-0047	EA	Install New Distribution Section, 800 Amperes (For Replace 800 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	4,309.12	
26 01 20 99-0048	EA	Test Circuits (For Replace 800 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	35.57	
26 01 20 99-0049		Replace 1,200 Amp Switchgear, Less Than 600 Volt Indoor Switchgear (26 01 20 99-0014)		
26 01 20 99-0050	EA	Turn Power Off, Later Turn On (For Replace 1,200 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	73.33	
26 01 20 99-0051	EA	Remove 4 Wire, 120/208 Volt, 200 Amperes, 4 Panel Boards (For Replace 1,200 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	3,259.34	
26 01 20 99-0052	EA	Remove Incoming Section (For Replace 1,200 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	814.86	
26 01 20 99-0053	EA	Remove Distribution Section (For Replace 1,200 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	630.80	
26 01 20 99-0054	EA	Install New 225 Amperes Main Lugs, 4 Wire, 120/208 Volt, 4 Panel Boards (For Replace 1,200 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	25,949.56	
26 01 20 99-0055	EA	Install New Incoming Section, 1,200 Amperes (For Replace 1,200 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	8,918.51	
26 01 20 99-0056	EA	Install New Distribution Section, 1,200 Amperes (For Replace 1,200 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	5,853.58	
26 01 20 99-0057	EA	Test Circuits (For Replace 1,200 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	53.29	
26 01 20 99-0058		Replace 1,600 Amp Switchgear, Less Than 600 Volt Indoor Switchgear (26 01 20 99-0014)		
26 01 20 99-0059	EA	Turn Power Off, Later Turn On (For Replace 1,600 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	97.78	
26 01 20 99-0060	EA	Remove 4 Wire, 120/208 Volt, 200 Amperes, 6 Panel Boards (For Replace 1,600 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	4,888.94	
26 01 20 99-0061	EA	Remove Incoming Section (For Replace 1,600 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	888.93	
26 01 20 99-0062	EA	Remove Distribution Section (For Replace 1,600 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	674.31	
26 01 20 99-0063	EA	Install New 225 Amperes Main Lugs, 4 Wire, 120/208 Volt, 6 Panel Boards (For Replace 1,600 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	38,924.22	
26 01 20 99-0064	EA	Install New Incoming Section, 1,600 Amperes (For Replace 1,600 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	9,165.40	
26 01 20 99-0065	EA	Install New Distribution Section, 1,600 Ampere (For Replace 1,600 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	7,865.78	
26 01 20 99-0066	EA	Test Circuits (For Replace 1,600 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	71.13	
26 01 20 99-0067		Replace 2,000 Amp Switchgear, Less Than 600 Volt Indoor Switchgear (26 01 20 99-0014)		



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 20 99-0068	EA	Turn Power Off, Later Turn On (For Replace 2,000 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	122.22	
26 01 20 99-0069	EA	Remove 4 Wire, 120/208 Volt, 200 Amperes, 8 Panel Boards (For Replace 2,000 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	6,518.55	
26 01 20 99-0070	EA	Remove Incoming Section (For Replace 2,000 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	931.22	
26 01 20 99-0071	EA	Remove Distribution Section (For Replace 2,000 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	724.30	
26 01 20 99-0072	EA	Install New 225 Amperes Main Lugs, 4 Wire, 120/208 Volt, 8 Panel Boards (For Replace 2,000 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	51,899.00	
26 01 20 99-0073	EA	Install New Incoming Section, 2,000 Amperes (For Replace 2,000 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	9,939.46	
26 01 20 99-0074	EA	Install New Distribution Section, 2,000 Amperes (For Replace 2,000 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	9,366.93	
26 01 20 99-0075	EA	Test Circuits (For Replace 2,000 Amperes Switchgear, Less Than 600 Volt Indoor Switchgear).....	88.86	
26 01 20 99-0076		600 Volt Indoor Switchgear (26 01 20 99-0001)		
26 01 20 99-0077		Maintenance And Repair (5% Of Total Fuses) 600 Volt Indoor Switchgear (26 01 20 99-0076)		
26 01 20 99-0078	EA	Remove Fuse (For Maintenance And Repair (5% Of Total Fuses) 600 Volt Indoor Switchgear).....	18.46	
26 01 20 99-0079	EA	Install New Fuse (For Maintenance And Repair (5% Of Total Fuses) 600 Volt Indoor Switchgear).....	479.33	
26 01 20 99-0080		Maintenance And Inspection, 600 Volt Indoor Switchgear (26 01 20 99-0076)		
26 01 20 99-0081	EA	Inspect And Clean Panel (For Maintenance And Inspection, 600 Volt Indoor Switchgear).....	61.11	
26 01 20 99-0082		Replace 600 Volt Switchgear (26 01 20 99-0076)		
26 01 20 99-0083	EA	Remove Indoor Switchgear (For Replace 600 Volt Switchgear).....	488.89	
26 01 20 99-0084	EA	Install New Switchgear (For Replace 600 Volt Switchgear).....	3,063.77	
26 01 20 99-0085	EA	Test Circuits (For Replace 600 Volt Switchgear).....	244.45	
26 01 20 99-0086		Switchboard Meters (26 01 20 99-0001)		
26 01 20 99-0087		Repair Switchboard Meter (26 01 20 99-0086)		
26 01 20 99-0088	EA	Repair Meter (For Repair Switchboard Meter).....	1,444.25	
26 01 20 99-0089		Replace Switchboard Meter (26 01 20 99-0086)		
26 01 20 99-0090	EA	Remove Meter (For Replace Switchboard Meter).....	61.11	
26 01 20 99-0091	EA	Install New Meter (For Replace Switchboard Meter).....	4,361.21	
26 01 20 99-0092		Inverter (26 01 20 99-0001)		
26 01 20 99-0093		Maintenance And Repair, 1 KVA Inverter (26 01 20 99-0092)		
26 01 20 99-0094	EA	Repair Inverter Component (For Maintenance And Repair, 1 KVA Inverter).....	1,000.07	
26 01 20 99-0095		Maintenance And Inspection, 1 KVA Inverter (26 01 20 99-0092)		
26 01 20 99-0096	EA	Check Connections, Controls And Relays, Maintenance And Inspection, 1 KVA Inverter.....	195.56	
26 01 20 99-0097		Replace 1 KVA Inverter (26 01 20 99-0092)		
26 01 20 99-0098	EA	Remove Inverter (For Replace 1 KVA Inverter).....	61.11	
26 01 20 99-0099	EA	Install New Inverter (For Replace 1 KVA Inverter).....	4,085.06	
26 01 20 99-0100		Up To 600 Volt Rectifier (26 01 20 99-0001)		
26 01 20 99-0101		Maintenance And Repair, Up To 600 Volt Rectifier (26 01 20 99-0100)		
26 01 20 99-0102	EA	Repair Rectifier Component (For Maintenance And Repair, Up To 600 Volt Rectifier).....	839.72	
26 01 20 99-0103		Maintenance And Inspection, Up To 600 Volt Rectifier (26 01 20 99-0100)		
26 01 20 99-0104	EA	Check Connections, Controls And Relays (For Maintenance And Inspection, Up To 600 Volt Rectifier).....	195.56	
26 01 20 99-0105		Replace Up To 600 Volt Rectifier (26 01 20 99-0100)		
26 01 20 99-0106	EA	Remove Rectifier (For Replace Up To 600 Volt Rectifier).....	61.11	
26 01 20 99-0107	EA	Install New Rectifier (For Replace Up To 600 Volt Rectifier).....	1,258.69	
26 01 20 99-0108		Less Than 600 Volt Motor Starter (26 01 20 99-0001)		
26 01 20 99-0109		Maintenance And Repair, Less Than 600 Volt Motor Starter (26 01 20 99-0108)		
26 01 20 99-0110	EA	Remove Motor Starter Coil (For Maintenance And Repair, Less Than 600 Volt Motor Starter).....	61.11	
26 01 20 99-0111	EA	Install New Motor Starter Coil (For Maintenance And Repair, Less Than 600 Volt Motor Starter).....	283.72	
26 01 20 99-0112		Maintenance And Inspection, Less Than 600 Volt Motor Starter (26 01 20 99-0108)		

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 20 Operation and Maintenance of Low-Voltage Electrical Distribution**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 20 99-0113	EA	Inspect And Clean Motor Starter (For Maintenance And Inspection, Less Than 600 Volt Motor Starter)	81.52	
26 01 20 99-0114		Replace Starter, Less Than 600 Volt Motor Starter (26 01 20 99-0108)		
26 01 20 99-0115	EA	Remove Motor Starter (For Replace Starter, Less Than 600 Volt Motor Starter)	109.88	
26 01 20 99-0116	EA	Install New 5 HP, Size 0, Magnetic Motor Starter (For Replace Starter, Less Than 600 Volt Motor Starter)	902.20	
26 01 20 99-0117	EA	Cut, Form, Align And Connect Wires (For Replace Starter, Less Than 600 Volt Motor Starter)	18.46	
26 01 20 99-0118	EA	Check Operation Of Motor Starter (For Replace Starter, Less Than 600 Volt Motor Starter)	2.20	
26 01 20 99-0119		600 Volt Motor Starter (26 01 20 99-0001)		
26 01 20 99-0120		Maintenance And Repair, 600 Volt Motor Starter (26 01 20 99-0119)		
26 01 20 99-0121	EA	Remove Motor Starter Coil (For Maintenance And Repair, 600 Volt Motor Starter)	208.02	
26 01 20 99-0122	EA	Install New Motor Starter Coil (For Maintenance And Repair, 600 Volt Motor Starter)	750.10	
26 01 20 99-0123		Maintenance And Inspection, 600 Volt Motor Starter (26 01 20 99-0119)		
26 01 20 99-0124	EA	Inspect And Clean Motor Starter (For Maintenance And Inspection, 600 Volt Motor Starter)	81.52	
26 01 20 99-0125		Replace 600 Volt Motor Starter (26 01 20 99-0119)		
26 01 20 99-0126	EA	Remove Motor Starter (For Replace 600 Volt Motor Starter)	407.37	
26 01 20 99-0127	EA	Install New 3 Pole, 100 HP Motor, FVRN Motor Starter (For Replace 600 Volt Motor Starter)	6,219.22	
26 01 20 99-0128	EA	Cut, Form, Align And Connect Wires (For Replace 600 Volt Motor Starter)	20.78	
26 01 20 99-0129	EA	Check Operation Of Motor Starter (For Replace 600 Volt Motor Starter)	2.20	
26 01 20 99-0130		Liquid Filled Secondary Transformer (26 01 20 99-0001)		
26 01 20 99-0131		Maintenance And Repair, Liquid Filled Secondary Transformer (26 01 20 99-0130)		
26 01 20 99-0132	EA	Remove Transformer Terminal (For Maintenance And Repair, Liquid Filled Secondary Transformer)	42.53	
26 01 20 99-0133	EA	Install New Transformer Terminal (For Maintenance And Repair, Liquid Filled Secondary Transformer)	136.74	
26 01 20 99-0134		Maintenance And Inspection, Liquid Filled Secondary Transformer (26 01 20 99-0130)		
26 01 20 99-0135	EA	Check Connections And Fluid (For Maintenance And Inspection, Liquid Filled Secondary Transformer)	81.52	
26 01 20 99-0136		Dry Secondary Transformer (26 01 20 99-0001)		
26 01 20 99-0137		Maintenance And Repair, Dry Secondary Transformer (26 01 20 99-0136)		
26 01 20 99-0138	EA	Remove Transformer Terminal (For Maintenance And Repair, Dry Secondary Transformer)	61.11	
26 01 20 99-0139	EA	Install New Transformer Terminal (For Maintenance And Repair, Dry Secondary Transformer)	254.98	
26 01 20 99-0140		Maintenance And Inspection Dry Secondary Transformer (26 01 20 99-0136)		
26 01 20 99-0141	EA	Inspect Connections And Tighten (For Maintenance And Inspection Dry Secondary Transformer)	122.22	
26 01 20 99-0142		Replace 15 KVA Transformer (26 01 20 99-0136)		
26 01 20 99-0143	EA	Remove Transformer, Including Support, Wire And Conduit Terminations (For Replace 15 KVA Transformer)	532.89	
26 01 20 99-0144	EA	Install New 240/480 Volt Primary, 120/208 V Secondary Transformer (For Replace 15 KVA Transformer)	3,385.40	
26 01 20 99-0145		Replace 112.5 KVA Transformer (26 01 20 99-0136)		
26 01 20 99-0146	EA	Remove Transformer, Including Support, Wire And Conduit Terminations (For Replace 112.5 KVA Transformer)	904.67	
26 01 20 99-0147	EA	Install New 240/480 Volt Primary, 120/208 V Secondary Transformer (For Replace 112.5 KVA Transformer)	7,193.28	
26 01 20 99-0148		Replace 500 KVA Transformer (26 01 20 99-0136)		
26 01 20 99-0149	EA	Remove Transformer, Including Support, Wire And Conduit Terminations (For Replace 500 KVA Transformer)	1,873.88	
26 01 20 99-0150	EA	Install New 240/480 Volt Primary, 120/208 V Secondary Transformer (For Replace 500 KVA Transformer)	25,432.74	
26 01 20 99-0151		Indoor Lighting Panel (26 01 20 99-0001)		
26 01 20 99-0152		Maintenance And Inspection, Indoor Lighting Panel (26 01 20 99-0151)		
26 01 20 99-0153	EA	Inspect And Clean Panels (For Maintenance And Inspection, Indoor Lighting Panel)	61.11	
26 01 20 99-0154		Replace 100 Amp Load Center (26 01 20 99-0151)		
26 01 20 99-0155	EA	Turn Power Off, Later Turn On (For Replace 100 Amp Load Center)	12.22	
26 01 20 99-0156	EA	Remove 3 Wire, 120/240 Volt, Load Center (For Replace 100 Amp Load Center)	376.08	
26 01 20 99-0157	EA	Install New 3 Wire, 120/240 Volt, 100 Amp, Load Center (For Replace 100 Amp Load Center)	1,167.84	
26 01 20 99-0158	EA	Test Circuits (For Replace 100 Amp Load Center)	8.92	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 20 99-0159		Lighting And Branch Wiring (26 01 20 99) Note: Includes all required small tools and equipment.		
26 01 20 99-0160		Wireway (26 01 20 99-0159)		
26 01 20 99-0161		Replace 8" x 8" Wireway (26 01 20 99-0160)		
26 01 20 99-0162	LF	Remove And Reinstall Supply Box (For Replace 8" x 8" Wireway)	6.11	
26 01 20 99-0163	LF	Remove Wireway, Fittings And Support (For Replace 8" x 8" Wireway)	12.22	
26 01 20 99-0164	LF	Install New Wireway, Fittings And Support (For Replace 8" x 8" Wireway)	84.67	
26 01 20 99-0165		Non-Metallic (NM) Tubing/Sheathed Cable (26 01 20 99-0159)		
26 01 20 99-0166		Replace Non-Metallic (NM) Tubing/Sheathed Cable (26 01 20 99-0165)		
26 01 20 99-0167	MLF	Shut Off Power, Later Turn On (For Replace Non-Metallic (NM) Tubing/Sheathed Cable)	12.22	
26 01 20 99-0168	MLF	Remove And Reinstall Cover Plate (For Replace Non-Metallic (NM) Tubing/Sheathed Cable)	157.67	
26 01 20 99-0169	MLF	Remove Junction Box (For Replace Non-Metallic (NM) Tubing/Sheathed Cable)	122.22	
26 01 20 99-0170	MLF	Remove Non-Metallic (NM) Tubing, #12, 2 Wire (For Replace Non-Metallic (NM) Tubing/Sheathed Cable)	1,554.68	
26 01 20 99-0171	MLF	Install Non-Metallic (NM) Tubing, #12, 2 Wire (For Replace Non-Metallic (NM) Tubing/Sheathed Cable)	4,560.34	
26 01 20 99-0172	MLF	Install New Staples, For Romex Or BX Cable (For Replace Non-Metallic (NM) Tubing/Sheathed Cable)	493.04	
26 01 20 99-0173	MLF	Install New Cable Connectors For #12, 2 Wire (For Replace Non-Metallic (NM) Tubing/Sheathed Cable)	105.01	
26 01 20 99-0174	MLF	Install New 4" Outlet Box Square For Romex Or BX (For Replace Non-Metallic (NM) Tubing/Sheathed Cable)	585.76	
26 01 20 99-0175		Service Cable (26 01 20 99-0159)		
26 01 20 99-0176		Replace Service Cable (26 01 20 99-0175)		
26 01 20 99-0177	MLF	Shut Off Power, Later Turn On (For Replace Service Cable)	12.22	
26 01 20 99-0178	MLF	Remove And Reinstall Cover Plate (For Replace Service Cable)	157.67	
26 01 20 99-0179	MLF	Remove Junction Box (For Replace Service Cable)	122.22	
26 01 20 99-0180	MLF	Remove #6 XLPE Wire (For Replace Service Cable)	244.45	
26 01 20 99-0181	MLF	Install New 600 Volt, Copper Type XLPE-USE (For Replace Service Cable)	2,930.17	
26 01 20 99-0182	MLF	Install New Staples For Service Cable (For Replace Service Cable)	619.42	
26 01 20 99-0183	MLF	Install New SER Cable Connectors (For Replace Service Cable)	504.35	
26 01 20 99-0184	MLF	Install New 4" Outlet Box Square (For Replace Service Cable)	522.70	
26 01 20 99-0185		Cable, Armored (26 01 20 99-0159)		
26 01 20 99-0186		Replace Armored Cable (26 01 20 99-0185)		
26 01 20 99-0187	MLF	Shut Off Power, Later Turn On (For Replace Armored Cable)	12.22	
26 01 20 99-0188	MLF	Remove And Reinstall Cover Plate (For Replace Armored Cable)	157.67	
26 01 20 99-0189	MLF	Remove Junction Box (For Replace Armored Cable)	122.22	
26 01 20 99-0190	MLF	Remove Armored Cable (For Replace Armored Cable)	1,615.80	
26 01 20 99-0191	MLF	Install New #12, 2 Wire, BX (For Replace Armored Cable)	4,720.74	
26 01 20 99-0192	MLF	Install New Staples, For Romex Or BX Cable (For Replace Armored Cable)	493.04	
26 01 20 99-0193	MLF	Install New Cable Connector (For Replace Armored Cable)	254.51	
26 01 20 99-0194	MLF	Install New 4" Outlet Box Square For Romex Or BX (For Replace Armored Cable)	585.76	
26 01 20 99-0195		Branch Wiring With Junction Box (26 01 20 99-0159)		
26 01 20 99-0196		Replace Branch Wiring (26 01 20 99-0195)		
26 01 20 99-0197	MLF	Shut Off Power, Later Turn On (For Replace Branch Wiring)	12.22	
26 01 20 99-0198	MLF	Remove And Reinstall Cover Plate (For Replace Branch Wiring)	157.67	
26 01 20 99-0199	MLF	Remove Junction Box (For Replace Branch Wiring)	122.22	
26 01 20 99-0200	MLF	Remove #12 Wire (For Replace Branch Wiring)	177.84	
26 01 20 99-0201	MLF	Install New #12 Copper, Stranded, Conductor (For Replace Branch Wiring)	1,451.71	
26 01 20 99-0202	MLF	Install New 4" Outlet Box Square (For Replace Branch Wiring)	522.70	
26 01 20 99-0203	MLF	Install New Wire Connectors (For Replace Branch Wiring)	127.20	
26 01 20 99-0204		600 Volt Branch Wiring (26 01 20 99-0159)		
26 01 20 99-0205		Replace 600 Volt Branch Wiring (26 01 20 99-0204)		
26 01 20 99-0206	MLF	Shut Off Power, Later Turn On (For Replace 600 Volt Branch Wiring)	12.22	
26 01 20 99-0207	MLF	Remove #12 Wire (For Replace 600 Volt Branch Wiring)	177.84	
26 01 20 99-0208	MLF	Install New #12 Copper, Stranded, Conductor (For Replace 600 Volt Branch Wiring)	1,451.71	
26 01 20 99-0209	MLF	Cut, Form And Align 4 Wires (For Replace 600 Volt Branch Wiring)	50.11	
26 01 20 99-0210	MLF	Splice, Solder, Insulate 2 Wires (For Replace 600 Volt Branch Wiring)	325.97	
26 01 20 99-0211		Circuit Breaker (26 01 20 99-0159)		
26 01 20 99-0212		Maintenance And Repair, 480 Volt, 1 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0213	EA	Tighten Connections (For Maintenance And Repair, 480 Volt, 1 Pole Molded Case Circuit Breaker)	108.66	
26 01 20 99-0214		Maintenance And Inspection, 480 Volt, 1 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0215	EA	Inspect, Tighten Circuit Breaker Wiring (For Maintenance And Inspection, 480 Volt, 1 Pole Molded Case Circuit Breaker)	48.89	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 20 Operation and Maintenance of Low-Voltage Electrical Distribution**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

26 01 20 99-0216	Replace 480 Volt, 1 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0217 EA	Remove Circuit Breaker (For Replace 480 Volt, 1 Pole Molded Case Circuit Breaker)	42.53	
26 01 20 99-0218 EA	Install New 70 To 100 Amp Circuit Breaker (For Replace 480 Volt, 1 Pole Molded Case Circuit Breaker)	819.07	
26 01 20 99-0219 EA	Cut, Form, Align And Connect Wires (For Replace 480 Volt, 1 Pole Molded Case Circuit Breaker)	18.46	
26 01 20 99-0220 EA	Check Operation Of Breaker (For Replace 480 Volt, 1 Pole Molded Case Circuit Breaker)	2.20	
26 01 20 99-0221	Maintenance And Repair, 480 Volt, 2 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0222 EA	Tighten Connections (For Maintenance And Repair, 480 Volt, 2 Pole Molded Case Circuit Breaker)	108.66	
26 01 20 99-0223	Maintenance And Inspection, 480 Volt, 2 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0224 EA	Inspect, Tighten Circuit Breaker Wiring (For Maintenance And Inspection, 480 Volt, 2 Pole Molded Case Circuit Breaker)	48.89	
26 01 20 99-0225	Replace 480 Volt, 2 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0226 EA	Remove Circuit Breaker (For Replace 480 Volt, 2 Pole Molded Case Circuit Breaker)	61.11	
26 01 20 99-0227 EA	Install New 70 To 100 Amp Circuit Breaker (For Replace 480 Volt, 2 Pole Molded Case Circuit Breaker)	1,149.78	
26 01 20 99-0228 EA	Cut, Form, Align And Connect Wires (For Replace 480 Volt, 2 Pole Molded Case Circuit Breaker)	18.46	
26 01 20 99-0229 EA	Check Operation Of Breaker (For Replace 480 Volt, 2 Pole Molded Case Circuit Breaker)	2.20	
26 01 20 99-0230	Maintenance And Repair, 480 Volt, 3 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0231 EA	Tighten Connections (For Maintenance And Repair, 480 Volt, 3 Pole Molded Case Circuit Breaker)	108.66	
26 01 20 99-0232	Maintenance And Inspection, 480 Volt, 3 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0233 EA	Inspect And Tighten Circuit Breaker Wiring (For Maintenance And Inspection, 480 Volt, 3 Pole Molded Case Circuit Breaker)	48.89	
26 01 20 99-0234	Replace 480 Volt, 3 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0235 EA	Remove Circuit Breaker (For Replace 480 Volt, 3 Pole Molded Case Circuit Breaker)	61.11	
26 01 20 99-0236 EA	Install New 70 To 100 Amp Circuit Breaker (For Replace 480 Volt, 3 Pole Molded Case Circuit Breaker)	1,437.23	
26 01 20 99-0237 EA	Cut, Form, Align And Connect Wires (For Replace 480 Volt, 3 Pole Molded Case Circuit Breaker)	18.46	
26 01 20 99-0238 EA	Check Operation Of Breaker (For Replace 480 Volt, 3 Pole Molded Case Circuit Breaker)	2.20	
26 01 20 99-0239	Replace 600 Volt, 2 Pole Molded Case Circuit Breaker Trip Switch (26 01 20 99-0211)		
26 01 20 99-0240 EA	Remove Trip Switch (For Replace 600 Volt, 2 Pole Molded Case Circuit Breaker Trip Switch)	61.11	
26 01 20 99-0241 EA	Install New Trip Switch (For Replace 600 Volt, 2 Pole Molded Case Circuit Breaker Trip Switch)	389.52	
26 01 20 99-0242	Maintenance And Inspection, 600 Volt, 2 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0243 EA	Inspect And Tighten Circuit Breaker Wiring (For Maintenance And Inspection, 600 Volt, 2 Pole Molded Case Circuit Breaker)	48.89	
26 01 20 99-0244	Replace 600 Volt, 2 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0245 EA	Remove Circuit Breaker (For Replace 600 Volt, 2 Pole Molded Case Circuit Breaker)	61.11	
26 01 20 99-0246 EA	Install New 70 To 100 Amp Circuit Breaker (For Replace 600 Volt, 2 Pole Molded Case Circuit Breaker)	1,191.27	
26 01 20 99-0247 EA	Cut, Form, Align And Connect Wires (For Replace 600 Volt, 2 Pole Molded Case Circuit Breaker)	20.78	
26 01 20 99-0248 EA	Check Operation Of Breaker (For Replace 600 Volt, 2 Pole Molded Case Circuit Breaker)	2.20	
26 01 20 99-0249	Replace 600 Volt, 3 Pole Molded Case Circuit Breaker Trip Switch (26 01 20 99-0211)		
26 01 20 99-0250 EA	Remove Trip Switch (For Replace 600 Volt, 3 Pole Molded Case Circuit Breaker Trip Switch)	61.11	
26 01 20 99-0251 EA	Install New Trip Switch (For Replace 600 Volt, 3 Pole Molded Case Circuit Breaker Trip Switch)	389.52	
26 01 20 99-0252	Maintenance And Inspection, 600 Volt, 3 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0253 EA	Inspect And Tighten Circuit Breaker Wiring (For Maintenance And Inspection, 600 Volt, 3 Pole Molded Case Circuit Breaker)	48.89	
26 01 20 99-0254	Replace 600 Volt, 3 Pole Molded Case Circuit Breaker (26 01 20 99-0211)		
26 01 20 99-0255 EA	Remove Circuit Breaker (For Replace 600 Volt, 3 Pole Molded Case Circuit Breaker)	108.66	
26 01 20 99-0256 EA	Install New 125 To 400 Amp Circuit Breaker (For Replace 600 Volt, 3 Pole Molded Case Circuit Breaker)	4,936.91	
26 01 20 99-0257 EA	Cut, Form, Align And Connect Wires (For Replace 600 Volt, 3 Pole Molded Case Circuit Breaker)	20.78	
26 01 20 99-0258 EA	Check Operation Of Breaker (For Replace 600 Volt, 3 Pole Molded Case Circuit Breaker)	2.20	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 20 99-0259		Maintenance And Repair, 240 Volt, 1 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0260	EA	Tighten Connections (For Maintenance And Repair, 240 Volt, 1 Pole Enclosed Circuit Breaker).....	108.66	
26 01 20 99-0261		Maintenance And Inspection, 240 Volt, 1 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0262	EA	Inspect And Tighten Circuit Breaker Wiring (For Maintenance And Inspection, 240 Volt, 1 Pole Enclosed Circuit Breaker).....	48.89	
26 01 20 99-0263		Replace 240 Volt, 1 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0264	EA	Remove Circuit Breaker (For Replace 240 Volt, 1 Pole Circuit Breaker Enclosed).....	61.11	
26 01 20 99-0265	EA	Install New 240 Volt, 1 Pole, 15 To 60 Amp, Circuit Breaker Enclosed (For Replace 240 Volt, 1 Pole Circuit Breaker Enclosed).....	523.84	
26 01 20 99-0266	EA	Cut, Form, Align And Connect Wires (For Replace 240 Volt, 1 Pole Circuit Breaker Enclosed).....	18.46	
26 01 20 99-0267	EA	Check Operation Of Breaker (For Replace 240 Volt, 1 Pole Circuit Breaker Enclosed).....	2.20	
26 01 20 99-0268		Maintenance And Repair, 240 Volt, 2 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0269	EA	Tighten Connections (For Maintenance And Repair, 240 Volt, 2 Pole Circuit Breaker Enclosed).....	108.66	
26 01 20 99-0270		Maintenance And Inspection, 240 Volt, 2 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0271	EA	Inspect And Tighten Circuit Breaker Wiring (For Maintenance And Inspection, 240 Volt, 2 Pole Circuit Breaker Enclosed).....	48.89	
26 01 20 99-0272		Replace 240 Volt, 2 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0273	EA	Remove Circuit Breaker (For Replace 240 Volt, 2 Pole Circuit Breaker Enclosed).....	61.11	
26 01 20 99-0274	EA	Install New Circuit Breaker Enclosed, 240 Volt, 15 To 60 Amp, 2 Pole (For Replace 240 Volt, 2 Pole Circuit Breaker Enclosed).....	871.64	
26 01 20 99-0275	EA	Cut, Form, Align And Connect Wires (For Replace 240 Volt, 2 Pole Circuit Breaker Enclosed).....	18.46	
26 01 20 99-0276	EA	Check Operation Of Breaker (For Replace 240 Volt, 2 Pole Circuit Breaker Enclosed).....	2.20	
26 01 20 99-0277		Maintenance And Repair, 240 Volt, 3 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0278	EA	Tighten Connections (For Maintenance And Repair, 240 Volt, 3 Pole Circuit Breaker Enclosed).....	108.66	
26 01 20 99-0279		Maintenance And Inspection, 240 Volt, 3 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0280	EA	Inspect And Tighten Circuit Breaker Wiring (For Maintenance And Inspection, 240 Volt, 3 Pole Circuit Breaker Enclosed).....	48.89	
26 01 20 99-0281		Replace 240 Volt, 3 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0282	EA	Remove Circuit Breaker (For Replace 240 Volt, 3 Pole Circuit Breaker Enclosed).....	61.11	
26 01 20 99-0283	EA	Install New Circuit Breaker Enclosed, 240 Volt, 15 To 60 Amp, 3 Pole (For Replace 240 Volt, 3 Pole Circuit Breaker Enclosed).....	927.88	
26 01 20 99-0284	EA	Cut, Form, Align And Connect Wires (For Replace 240 Volt, 3 Pole Circuit Breaker Enclosed).....	18.46	
26 01 20 99-0285	EA	Check Operation Of Breaker (For Replace 240 Volt, 3 Pole Circuit Breaker Enclosed).....	2.20	
26 01 20 99-0286		Repair Failed 600 Volt, 2 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0287	EA	Repair Circuit Breaker Component (For Repair Failed 600 Volt, 2 Pole Circuit Breaker Enclosed).....	841.81	
26 01 20 99-0288		Maintenance And Inspection, 600 Volt, 2 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0289	EA	Inspect And Tighten Circuit Breaker Wiring (For Maintenance And Inspection, 600 Volt, 2 Pole Circuit Breaker Enclosed).....	48.89	
26 01 20 99-0290		Replace 600 Volt, 2 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0291	EA	Remove Circuit Breaker, 600 Volt, 100 Amp, 2 Pole (For Replace 600 Volt, 2 Pole Circuit Breaker Enclosed).....	97.78	
26 01 20 99-0292	EA	Install New Circuit Breaker Enclosed, 600 Volt, 100 Amp, 2 Pole (For Replace 600 Volt, 2 Pole Circuit Breaker Enclosed).....	1,386.83	
26 01 20 99-0293	EA	Cut, Form, Align And Connect Wires (For Replace 600 Volt, 2 Pole Circuit Breaker Enclosed).....	20.78	
26 01 20 99-0294	EA	Check Operation Of Breaker (For Replace 600 Volt, 2 Pole Circuit Breaker Enclosed).....	2.20	
26 01 20 99-0295		Repair Failed 600 Volt, 3 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0296	EA	Repair Circuit Breaker Component (For Replace 600 Volt, 3 Pole Circuit Breaker Enclosed).....	1,206.18	
26 01 20 99-0297		Maintenance And Inspection, 600 Volt, 3 Pole Circuit Breaker Enclosed (26 01 20 99-0211)		
26 01 20 99-0298	EA	Inspect And Tighten Circuit Breaker Wiring (For Maintenance And Inspection, 600 Volt, 3 Pole Circuit Breaker Enclosed).....	48.89	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 20 Operation and Maintenance of Low-Voltage Electrical Distribution**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

26 01 20 99-0299	Replace 600 Volt, 3 Pole 100 Amp Circuit Breaker Enclosed (26 01 20 99-0211)	
26 01 20 99-0300 EA	Remove Circuit Breaker (For Replace 600 Volt, 3 Pole 100 Amp Circuit Breaker Enclosed)	108.66
26 01 20 99-0301 EA	Install New Circuit Breaker Enclosed, 600 Volt, 100 Amp, 3 Pole (For Replace 600 Volt, 3 Pole 100 Amp Circuit Breaker Enclosed)	1,099.27
26 01 20 99-0302 EA	Cut, Form, Align And Connect Wires (For Replace 600 Volt, 3 Pole 100 Amp Circuit Breaker Enclosed)	20.78
26 01 20 99-0303 EA	Check Operation Of Breaker (For Replace 600 Volt, 3 Pole 100 Amp Circuit Breaker Enclosed)	2.20
26 01 20 99-0304	Replace 600 Volt, 3 Pole 800 Amp, Circuit Breaker Enclosed (26 01 20 99-0211)	
26 01 20 99-0305 EA	Remove Circuit Breaker (For Replace 600 Volt, 3 Pole 800 Amp, Circuit Breaker Enclosed)	543.16
26 01 20 99-0306 EA	Install New Circuit Breaker Enclosed, 600 Volt, 800 Amp, 3 Pole (For Replace 600 Volt, 3 Pole 800 Amp, Circuit Breaker Enclosed)	11,104.01
26 01 20 99-0307 EA	Cut, Form, Align And Connect Wires (For Replace 600 Volt, 3 Pole 800 Amp, Circuit Breaker Enclosed)	41.56
26 01 20 99-0308 EA	Check Operation Of Breaker (For Replace 600 Volt, 3 Pole 800 Amp, Circuit Breaker Enclosed)	4.52
26 01 20 99-0309	Replace 600 Volt, 3 Pole 1000 Amp Circuit Breaker Enclosed (26 01 20 99-0211)	
26 01 20 99-0310 EA	Remove Circuit Breaker (For Replace 600 Volt, 3 Pole 1,000 Amp Circuit Breaker Enclosed)	630.80
26 01 20 99-0311 EA	Install New Circuit Breaker Enclosed, 600 Volt, 1,000 Amp, 3 Pole (For Replace 600 Volt, 3 Pole 1,000 Amp Circuit Breaker Enclosed)	19,649.36
26 01 20 99-0312 EA	Cut, Form, Align And Connect Wires (For Replace 600 Volt, 3 Pole 1,000 Amp Circuit Breaker Enclosed)	63.07
26 01 20 99-0313 EA	Check Operation Of Breaker (For Replace 600 Volt, 3 Pole 1,000 Amp Circuit Breaker Enclosed)	6.72
26 01 20 99-0314	Replace 600 Volt, 3 Pole 1600 Amp Circuit Breaker Enclosed (26 01 20 99-0211)	
26 01 20 99-0315 EA	Remove Circuit Breaker (For Replace 600 Volt, 3 Pole 1,600 Amp Circuit Breaker Enclosed)	698.39
26 01 20 99-0316 EA	Install New Circuit Breaker Enclosed, 600 Volt, 1,600 Amp, 3 Pole (For Replace 600 Volt, 3 Pole 1,600 Amp Circuit Breaker Enclosed)	23,045.17
26 01 20 99-0317 EA	Cut, Form, Align And Connect Wires (For Replace 600 Volt, 3 Pole 1,600 Amp Circuit Breaker Enclosed)	83.23
26 01 20 99-0318 EA	Check Operation Of Breaker (For Replace 600 Volt, 3 Pole 1,600 Amp Circuit Breaker Enclosed)	8.92
26 01 20 99-0319	Replace 600 Volt, 3 Pole 2000 Amp Circuit Breaker Enclosed (26 01 20 99-0211)	
26 01 20 99-0320 EA	Remove Circuit Breaker (For Replace 600 Volt, 3 Pole 2,000 Amp Circuit Breaker Enclosed)	782.23
26 01 20 99-0321 EA	Install New Circuit Breaker Enclosed, 600 Volt, 2,000 Amp, 3 Pole (For Replace 600 Volt, 3 Pole 2,000 Amp Circuit Breaker Enclosed)	29,089.31
26 01 20 99-0322 EA	Cut, Form, Align And Connect Wires (For Replace 600 Volt, 3 Pole 2,000 Amp Circuit Breaker Enclosed)	173.31
26 01 20 99-0323 EA	Check Operation Of Breaker (For Replace 600 Volt, 3 Pole 2,000 Amp Circuit Breaker Enclosed)	18.70
26 01 20 99-0324	Safety Switch, Heavy Duty (26 01 20 99-0159)	
26 01 20 99-0325	Maintenance And Repair, 3 Pole Heavy Duty Safety Switch (26 01 20 99-0324)	
26 01 20 99-0326 EA	Resecure Lugs (For Maintenance And Repair, 3 Pole Heavy Duty Safety Switch)	61.11
26 01 20 99-0327	Maintenance And Inspection, 3 Pole Safety Switch (26 01 20 99-0324)	
26 01 20 99-0328 EA	Inspect And Clean Safety Switch (For Maintenance And Inspection, 3 Pole Safety Switch)	61.11
26 01 20 99-0329	Replace 30 Amp Heavy Duty Safety Switch (26 01 20 99-0324)	
26 01 20 99-0330 EA	Remove Safety Switch (For Replace 30 Amp Heavy Duty Safety Switch)	79.45
26 01 20 99-0331 EA	Install New Fused Safety Switch, Heavy Duty, 600 Volt, 3 Pole, 30 Amp (For Replace 30 Amp Heavy Duty Safety Switch)	544.12
26 01 20 99-0332 EA	Install New Fuses (For Replace 30 Amp Heavy Duty Safety Switch)	208.68
26 01 20 99-0333 EA	Check Operation Of Switch (For Replace 30 Amp Heavy Duty Safety Switch)	2.20
26 01 20 99-0334	Replace 100 Amp Heavy Duty Safety Switch (26 01 20 99-0324)	
26 01 20 99-0335 EA	Remove Safety Switch (For Replace 100 Amp Heavy Duty Safety Switch)	133.96
26 01 20 99-0336 EA	Install New Fused Safety Switch, Heavy Duty, 600 Volt, 3 Pole, 100 Amp (For Replace 100 Amp Heavy Duty Safety Switch)	981.42
26 01 20 99-0337 EA	Install New Fuses (For Replace 100 Amp Heavy Duty Safety Switch)	350.67
26 01 20 99-0338 EA	Check Operation Of Switch (For Replace 100 Amp Heavy Duty Safety Switch)	2.20
26 01 20 99-0339	Replace 200 Amp Heavy Duty Safety Switch (26 01 20 99-0324)	
26 01 20 99-0340 EA	Remove Safety Switch (For Replace 200 Amp Heavy Duty Safety Switch)	195.56
26 01 20 99-0341 EA	Install New Fused Safety Switch, Heavy Duty, 600 Volt, 3 Pole, 200 Amp (For Replace 200 Amp Heavy Duty Safety Switch)	1,498.94
26 01 20 99-0342 EA	Install New Fuses (For Replace 200 Amp Heavy Duty Safety Switch)	620.53
26 01 20 99-0343 EA	Check Operation Of Switch (For Replace 200 Amp Heavy Duty Safety Switch)	2.20
26 01 20 99-0344	Replace 400 Amp Heavy Duty Safety Switch (26 01 20 99-0324)	
26 01 20 99-0345 EA	Remove Safety Switch (For Replace 400 Amp Heavy Duty Safety Switch)	287.59
26 01 20 99-0346 EA	Install New Fused Safety Switch, Heavy Duty, 600 Volt, 3 Pole, 400 Amp (For Replace 400 Amp Heavy Duty Safety Switch)	2,797.83



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 20 99-0347	EA	Install New Fuses (For Replace 400 Amp Heavy Duty Safety Switch)	1,273.51	
26 01 20 99-0348	EA	Check Operation Of Switch (For Replace 400 Amp Heavy Duty Safety Switch)	4.52	
26 01 20 99-0349		Replace 600 Amp Heavy Duty Safety Switch (26 01 20 99-0324)		
26 01 20 99-0350	EA	Remove Safety Switch (For Replace 600 Amp Heavy Duty Safety Switch)	425.09	
26 01 20 99-0351	EA	Install New Fused Safety Switch, Heavy Duty, 600 Volt, 3 Pole, 600 Amp (For Replace 600 Amp Heavy Duty Safety Switch).....	5,052.37	
26 01 20 99-0352	EA	Install New Fuses (For Replace 600 Amp Heavy Duty Safety Switch)	1,593.56	
26 01 20 99-0353	EA	Check Operation Of Switch (For Replace 600 Amp Heavy Duty Safety Switch)	4.52	
26 01 20 99-0354		Safety Switch, General Duty (26 01 20 99-0159)		
26 01 20 99-0355		Maintenance And Repair, 2 Pole General Safety Switch (26 01 20 99-0354)		
26 01 20 99-0356	EA	Resecure Lugs (For Maintenance And Repair, 2 Pole General Safety Switch)	61.11	
26 01 20 99-0357		Maintenance And Inspection, 2 Pole Safety Switch (26 01 20 99-0354)		
26 01 20 99-0358	EA	Inspect And Clean Safety Switch (For Maintenance And Inspection, 2 Pole Safety Switch)	61.11	
26 01 20 99-0359		Replace 240 Volt, 2 Pole Safety Switch (26 01 20 99-0354)		
26 01 20 99-0360	EA	Remove Safety Switch (For Replace 240 Volt, 2 Pole Safety Switch)	79.45	
26 01 20 99-0361	EA	Install New Fused Safety Switch, General Duty, 240 Volt, 2 Pole, 30 Amp (For Replace 240 Volt, 2 Pole Safety Switch).....	389.90	
26 01 20 99-0362	EA	Install New Fuse, Dual Element, Time Delay, 250 Volt, 30 Amp (For Replace 240 Volt, 2 Pole Safety Switch).....	65.97	
26 01 20 99-0363	EA	Cut, Form, Align And Connect Wires (For Replace 240 Volt, 2 Pole Safety Switch)	18.46	
26 01 20 99-0364	EA	Check Operation Of Switch (For Replace 240 Volt, 2 Pole Safety Switch)	2.20	
26 01 20 99-0365		Maintenance And Repair, 3 Pole General Safety Switch (26 01 20 99-0354)		
26 01 20 99-0366	EA	Resecure Lugs (For Maintenance And Repair, 3 Pole General Safety Switch)	61.11	
26 01 20 99-0367		Maintenance And Inspection, 3 Pole Safety Switch (26 01 20 99-0354)		
26 01 20 99-0368	EA	Inspect And Clean Safety Switch (For Maintenance And Inspection, 3 Pole Safety Switch)	61.11	
26 01 20 99-0369		Replace 240 Volt, 3 Pole Safety Switch (26 01 20 99-0354)		
26 01 20 99-0370	EA	Remove Safety Switch (For Replace 240 Volt, 3 Pole Safety Switch)	79.45	
26 01 20 99-0371	EA	Install New Fused Safety Switch, General Duty, 240 Volt, 3 Pole, 30 Amp (For Replace 240 Volt, 3 Pole Safety Switch).....	449.73	
26 01 20 99-0372	EA	Install New Fuse, Dual Element, Time Delay, 250 Volt, 30 Amp (For Replace 240 Volt, 3 Pole Safety Switch).....	98.97	
26 01 20 99-0373	EA	Cut, Form, Align And Connect Wires (For Replace 240 Volt, 3 Pole Safety Switch)	18.46	
26 01 20 99-0374	EA	Check Operation Of Switch (For Replace 240 Volt, 3 Pole Safety Switch)	2.20	
26 01 20 99-0375		Replace Low Voltage Cartridge (26 01 20 99-0354)		
26 01 20 99-0376	EA	Remove Cartridge Fuse Cutouts (For Replace Low Voltage Cartridge).....	12.22	
26 01 20 99-0377	EA	Install New Cartridge Fuse Cutouts 3 Pole (For Replace Low Voltage Cartridge).....	60.50	
26 01 20 99-0378		Replace Plug Fuse (26 01 20 99-0354)		
26 01 20 99-0379	EA	Remove Plug Fuse (For Replace Plug Fuse)	9.78	
26 01 20 99-0380	EA	Install New Plug Fuse, 120 Volt, 15 To 30 Amp (For Replace Plug Fuse).....	24.80	
26 01 20 99-0381		Receptacles And Plugs (26 01 20 99-0159)		
26 01 20 99-0382		Maintenance And Repair, Receptacles And Plugs (26 01 20 99-0381)		
26 01 20 99-0383	EA	Repair Receptacle Component (Cover) (For Maintenance And Repair, Receptacles And Plugs).....	62.84	
26 01 20 99-0384		Replace Receptacle/Plug, Receptacles And Plugs (26 01 20 99-0381)		
26 01 20 99-0385	EA	Turn Power Off, Later Turn On (For Replace Receptacle/Plug, Receptacles And Plugs)	12.22	
26 01 20 99-0386	EA	Remove And Reinstall Cover Plates (For Replace Receptacle/Plug, Receptacles And Plugs)	20.78	
26 01 20 99-0387	EA	Remove Receptacle (For Replace Receptacle/Plug, Receptacles And Plugs).....	4.89	
26 01 20 99-0388	EA	Install New Receptacle (For Replace Receptacle/Plug, Receptacles And Plugs).....	59.97	
26 01 20 99-0389	EA	Cut, Form, Align And Connect Wires (For Replace Receptacle/Plug, Receptacles And Plugs)	3.18	
26 01 20 99-0390	EA	Test For Operation, Receptacle (For Replace Receptacle/Plug, Receptacles And Plugs)	1.83	
26 01 20 99-0391		4-Pin Receptacle (26 01 20 99-0159)		
26 01 20 99-0392		Repair 4-Pin Receptacle Cover (26 01 20 99-0391)		
26 01 20 99-0393	EA	Repair Receptacle(Cover) (For Repair 4-Pin Receptacle Cover)	83.83	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 20 Operation and Maintenance of Low-Voltage Electrical Distribution**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 20 99-0394 Replace 4-Pin Receptacle (26 01 20 99-0391)		
26 01 20 99-0395 EA Remove 4-Pin Receptacle (For Replace 4-Pin Receptacle)	24.44	
26 01 20 99-0396 EA Install New 4-Pin Locking Receptacle (For Replace 4-Pin Receptacle)	162.81	
26 01 20 99-0397 Contactors And Relays (26 01 20 99-0159)		
26 01 20 99-0398 Maintenance And Repair, Contactors And Relays (26 01 20 99-0397)		
26 01 20 99-0399 EA Remove Contactor Coil (For Maintenance And Repair, Contactors And Relays)	73.58	
26 01 20 99-0400 EA Install New Contactor Coil (For Maintenance And Repair, Contactors And Relays)	285.94	
26 01 20 99-0401 Maintenance And Inspection, Contactors And Relays (26 01 20 99-0397)		
26 01 20 99-0402 EA Inspect And Clean Contacts (For Maintenance And Inspection, Contactors And Relays)	30.56	
26 01 20 99-0403 Replace Contactor, Contactors And Relays (26 01 20 99-0397)		
26 01 20 99-0404 EA Remove Magnetic Contactor (For Replace Contactor, Contactors And Relays)	97.78	
26 01 20 99-0405 EA Install New Magnetic Contactor 600 Volt, 3 P, 25 HP (For Replace Contactor, Contactors And Relays)	979.41	
26 01 20 99-0406 EA Cut, Form, Align And Connect Wires (For Replace Contactor, Contactors And Relays)	18.46	
26 01 20 99-0407 EA Check Operation Of Contactor (For Replace Contactor, Contactors And Relays)	2.20	
26 01 20 99-0408 Wiring Devices, Switches (26 01 20 99-0159)		
26 01 20 99-0409 Maintenance And Repair, Wiring Devices, Switches (26 01 20 99-0408)		
26 01 20 99-0410 EA Repair Switch Component (Cover) (For Maintenance And Repair, Wiring Devices, Switches)	62.84	
26 01 20 99-0411 Replace Switch, Wiring Devices, Switches (26 01 20 99-0408)		
26 01 20 99-0412 EA Turn Power Off, Later Turn On (For Replace Switch, Wiring Devices, Switches)	12.22	
26 01 20 99-0413 EA Remove And Reinstall Cover Plates (For Replace Switch, Wiring Devices, Switches)	20.78	
26 01 20 99-0414 EA Remove Switch (For Replace Switch, Wiring Devices, Switches)	4.89	
26 01 20 99-0415 EA Install New Switch (For Replace Switch, Wiring Devices, Switches)	51.40	
26 01 20 99-0416 EA Cut, Form, Align And Connect Wires (For Replace Switch, Wiring Devices, Switches)	3.18	
26 01 20 99-0417 EA Test For Operation (For Replace Switch, Wiring Devices, Switches)	1.83	
26 01 20 99-0418 Light Dimming Panel (26 01 20 99-0159)		
26 01 20 99-0419 Minor Repairs To Light Dimming Panel (26 01 20 99-0418)		
26 01 20 99-0420 EA Check And Test Components (For Minor Repairs To Light Dimming Panel)	48.89	
26 01 20 99-0421 EA Remove Dimming Panel Component (For Minor Repairs To Light Dimming Panel)	27.13	
26 01 20 99-0422 EA Install New Dimming Panel Component (For Minor Repairs To Light Dimming Panel)	179.02	
26 01 20 99-0423 Maintenance And Inspection, Light Dimming Panel (26 01 20 99-0418)		
26 01 20 99-0424 EA Check Light Dimming Panel (For Maintenance And Inspection, Light Dimming Panel)	65.15	
26 01 20 99-0425 Replace Light Dimming Panel (26 01 20 99-0418)		
26 01 20 99-0426 EA Turn Power Off, Later Turn On (For Replace Light Dimming Panel)	12.22	
26 01 20 99-0427 EA Remove Dimming Panel (For Replace Light Dimming Panel)	195.56	
26 01 20 99-0428 EA Install New Dimming Panel (For Replace Light Dimming Panel)	1,994.25	
26 01 20 99-0429 EA Test Circuits (For Replace Light Dimming Panel)	8.92	
26 01 20 99-0430 Switch, Pull Cord (26 01 20 99-0159)		
26 01 20 99-0431 Maintenance And Repair, Switch, Pull Cord (26 01 20 99-0430)		
26 01 20 99-0432 EA Repair Switch Component (Cover) (For Maintenance And Repair, Switch, Pull Cord)	63.02	
26 01 20 99-0433 Replace Switch, Switch, Pull Cord (26 01 20 99-0430)		
26 01 20 99-0434 EA Turn Power Off, Later Turn On (For Replace Switch, Switch, Pull Cord)	12.22	
26 01 20 99-0435 EA Remove And Reinstall Cover Plates (For Replace Switch, Switch, Pull Cord)	20.78	
26 01 20 99-0436 EA Remove Switch (For Replace Switch, Switch, Pull Cord)	4.89	
26 01 20 99-0437 EA Install New Pull Cord Switch (For Replace Switch, Switch, Pull Cord)	60.02	
26 01 20 99-0438 EA Cut, Form, Align And Connect Wires (For Replace Switch, Switch, Pull Cord)	3.18	
26 01 20 99-0439 EA Test For Operation (For Replace Switch, Switch, Pull Cord)	1.83	
26 01 20 99-0440 EMT Conduit (26 01 20 99-0159)		
26 01 20 99-0441 Replace 1" EMT Conduit (26 01 20 99-0440)		
26 01 20 99-0442 MLF Remove And Reinstall Cover Plate (For Replace 1" EMT Conduit)	157.67	
26 01 20 99-0443 MLF Remove Conduit With Fittings And Hangers (For Replace 1" EMT Conduit)	2,481.14	
26 01 20 99-0444 MLF Remove Junction Box (For Replace 1" EMT Conduit)	122.22	
26 01 20 99-0445 MLF Install New 1" EMT With Couplings (For Replace 1" EMT Conduit)	7,602.38	
26 01 20 99-0446 MLF Install New Outlet Box Square (For Replace 1" EMT Conduit)	522.70	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 20 99-0447	MLF	Install New Box Connector (For Replace 1" EMT Conduit).....	149.01	
26 01 20 99-0448	MLF	Install New Beam Clamp (For Replace 1" EMT Conduit).....	1,251.07	
26 01 20 99-0449	MLF	Install New Conduit Hanger (For Replace 1" EMT Conduit).....	2,030.13	
26 01 20 99-0450		Electrical Service & Distribution Preventative Maintenance (26 01 20 99) Note: Includes all required small tools and equipment.		
26 01 20 99-0451		Electrical Switchboard Preventative Maintenance (26 01 20 99-0450)		
26 01 20 99-0452	EA	Annual Preventative Maintenance For Electrical Switchboard..... Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Check Indicating Lamps For Proper Operation, If Appropriate; Replace Burned Out Lamps. 3. Remove And Reinstall Cover. 4. Check For Discolorations, Hot Spots, Odors And Charred Insulation. 5. Clean Switchboard Exterior And Surrounding Area. 6. Fill Out Maintenance Checklist And Report Deficiencies.	89.82	
26 01 20 99-0453		Switchboard With Air Circuit Breaker Preventative Maintenance (26 01 20 99-0450)		
26 01 20 99-0454	EA	Annual Preventative Maintenance For Switchboard With Air Circuit Breaker Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Check Indicating Lamps For Proper Operation, If Appropriate; Replace Burned Out Lamps. 3. Remove Switchboard From Service, Coordinate With Appropriate Authority. 4. Remove And Reinstall Cover. 5. Check For Discolorations, Hot Spots, Odors And Charred Insulation. 6. Check The Records On The Circuit Breaker For Any Full Current Rated Trips Which May Indicate A Potential Problem. 7. Examine The Exterior Of The Switchboard For Any Damage Or Moisture. 8. Check Operation Of Circuit Breaker Tripping Mechanism And Relays. 9. Check The Operation Of The Circuit Breaker Charging Motor. 10. Check Hardware For Tightness. 11. Check Interlock For Proper Operation. 12. Check That The Charger Is Operating Properly. 13. Check For Any Signs Of Corrosion On The Battery Terminals Or Wires. 14. Check The Electrolyte Level In The Batteries; Add As Required. 15. Check The Specific Gravity Of The Electrolyte In A 10% Sample Of The Batteries. 16. Check 25% Of Terminal-To-Cell Connection Resistance; Rehabilitate Connections As Required. 17. Apply Anti-Corrosion Grease To Battery Terminals And Connections. 18. Measure And Record Individual Cell And String Float Voltages. 19. Place Switchboard Back In Service, Notify Appropriate Authority. 20. Clean Switchboard, Charger And The Surrounding Area. 21. Fill Out Maintenance Checklist And Report Deficiencies.	573.45	
26 01 20 99-0455		Switchboard With Air Circuit Breaker And Tie Switch Preventative Maintenance (26 01 20 99-0450)		
26 01 20 99-0456	EA	Annual Preventative Maintenance For Switchboard With Air Circuit Breaker And Tie Switch Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Check Indicating Lamps For Proper Operation, If Appropriate; Replace Burned Out Lamps. 3. Remove Switchboard From Service, Coordinate With Appropriate Authority. 4. Remove And Reinstall Cover. 5. Check For Discolorations, Hot Spots, Odors And Charred Insulation. 6. Check The Records On The Circuit Breaker For Any Full Current Rated Trips Which May Indicate A Potential Problem. 7. Examine The Exterior Of The Switchboard For Any Damage Or Moisture. 8. Check Operation Of Circuit Breaker Tripping Mechanism And Relays. 9. Check The Operation Of The Circuit Breaker Charging Motor. 10. Check Hardware For Tightness. 11. Check Interlock For Proper Operation. 12. Operate The Switching Handle And Check The Locking Mechanism. 13. Check That The Charger Is Operating Properly. 14. Check For Any Signs Of Corrosion On The Battery Terminals Or Wires. 15. Check The Electrolyte Level In The Batteries; Add As Required. 16. Check The Specific Gravity Of The Electrolyte In A 10% Sample Of The Batteries. 17. Check 25% Of Terminal-To-Cell Connection Resistance; Rehabilitate Connections As Required. 18. Apply Anti-Corrosion Grease To Battery Terminals And Connections. 19. Measure And Record Individual Cell And String Float Voltages. 20. Place Switchboard Back In Service, Notify Appropriate Authority. 21. Clean Switchboard, Charger And The Surrounding Area. 22. Fill Out Maintenance Checklist And Report Deficiencies.	582.48	
26 01 20 99-0457		225 Amps And Above, Panel Board Preventative Maintenance (26 01 20 99-0450)		
26 01 20 99-0458	EA	Annual Preventative Maintenance For 225 Amperes And Above, Panel Board Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Check For Excessive Heat, Odors, Noise And Vibration. 3. Check General Condition Of Panel; Replace Lamps As Required. 4. Clean Panel. 5. Fill Out Maintenance Checklist And Report Deficiencies.	81.05	
26 01 20 99-0459		400 Amps And Above, Motor Control Center Preventative Maintenance (26 01 20 99-0450)		
26 01 20 99-0460	EA	Annual Preventative Maintenance For 400 Amps And Above, Motor Control Center Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Check Starter Lights; Install New Lights If Required. 3. Check For Excessive Heat, Odors, Noise And Vibration. 4. Check Motor Control Center Exterior And Surrounding Area. 5. Fill Out Maintenance Checklist And Report Deficiencies.	80.65	
26 01 26		Maintenance Testing of Electrical Systems (26 01)		
26 01 26 00-0001		TTR Maintenance Testing Or Meggar Maintenance Testing of Transformers (26 01 26) Note: Includes all required small tools and equipment. Use other MRO tasks required to remove equipment cover.		
26 01 26 00-0002		TTR Maintenance Testing Or Meggar Maintenance Testing of Transformers, Not Connected (26 01 26 00-0001)		
26 01 26 00-0003	EA	TTR Or Megger Maintenance Testing Of Up To 15 KVA, Single Phase Transformer, Not Connected.....	30.75	
26 01 26 00-0004	EA	TTR Or Megger Maintenance Testing Of >15 To 50 KVA, Single Phase Transformer, Not Connected	51.25	
26 01 26 00-0005	EA	TTR Or Megger Maintenance Testing Of 75 KVA, Single Phase Transformer, Not Connected	71.75	
26 01 26 00-0006	EA	TTR Or Megger Maintenance Testing Of 100 KVA, Single Phase Transformer, Not Connected	92.24	
26 01 26 00-0007	EA	TTR Or Megger Maintenance Testing Of 150 KVA, Single Phase Transformer, Not Connected	112.75	
26 01 26 00-0008	EA	TTR Or Megger Maintenance Testing Of 167 KVA, Single Phase Transformer, Not Connected	133.24	
26 01 26 00-0009	EA	TTR Or Megger Maintenance Testing Of 200 KVA, Single Phase Transformer, Not Connected	143.49	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 26 Maintenance Testing of Electrical Systems**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

26 01 26 00-0010	EA	TTR Or Megger Maintenance Testing Of 250 KVA, Single Phase Transformer, Not Connected	153.73
26 01 26 00-0011	EA	TTR Or Megger Maintenance Testing Of Up To 15 KVA, Three Phase Transformer, Not Connected	51.25
26 01 26 00-0012	EA	TTR Or Megger Maintenance Testing Of >15 To 45 KVA, Three Phase Transformer, Not Connected	71.75
26 01 26 00-0013	EA	TTR Or Megger Maintenance Testing Of 75 KVA, Three Phase Transformer, Not Connected	92.24
26 01 26 00-0014	EA	TTR Or Megger Maintenance Testing Of 112.5 KVA, Three Phase Transformer, Not Connected	102.49
26 01 26 00-0015	EA	TTR Or Megger Maintenance Testing Of 150 KVA, Three Phase Transformer, Not Connected	143.49
26 01 26 00-0016	EA	TTR Or Megger Maintenance Testing Of 225 KVA, Three Phase Transformer, Not Connected	163.99
26 01 26 00-0017	EA	TTR Or Megger Testing Of 300 KVA, Three Phase Transformer, Not Connected	184.49

26 01 26 00-0018 TTR Maintenance Testing Or Megger Maintenance Testing of Transformers, Connected (26 01 26 00-0001)

26 01 26 00-0019	EA	TTR Or Megger Maintenance Testing Of Up To 15 KVA, Single Phase Transformer, Connected	51.25
26 01 26 00-0020	EA	TTR Or Megger Maintenance Testing Of >15 To 50 KVA, Single Phase Transformer, Connected	71.75
26 01 26 00-0021	EA	TTR Or Megger Maintenance Testing Of 75 KVA, Single Phase Transformer, Connected	82.00
26 01 26 00-0022	EA	TTR Or Megger Maintenance Testing Of 100 KVA, Single Phase Transformer, Connected	102.49
26 01 26 00-0023	EA	TTR Or Megger Maintenance Testing Of 150 KVA, Single Phase Transformer, Connected	143.49
26 01 26 00-0024	EA	TTR Or Megger Maintenance Testing Of 167 KVA, Single Phase Transformer, Connected	174.24
26 01 26 00-0025	EA	TTR Or Megger Maintenance Testing Of 200 KVA, Single Phase Transformer, Connected	184.49
26 01 26 00-0026	EA	TTR Or Megger Maintenance Testing Of 250 KVA, Single Phase Transformer, Connected	194.73
26 01 26 00-0027	EA	TTR Or Megger Maintenance Testing Of Up To 15 KVA, Three Phase Transformer, Connected	71.75
26 01 26 00-0028	EA	TTR Or Megger Maintenance Testing Of >15 To 45 KVA, Three Phase Transformer, Connected	92.24
26 01 26 00-0029	EA	TTR Or Megger Maintenance Testing Of 75 KVA, Three Phase Transformer, Connected	122.99
26 01 26 00-0030	EA	TTR Or Megger Maintenance Testing Of 112.5 KVA, Three Phase Transformer, Connected	163.99
26 01 26 00-0031	EA	TTR Or Megger Maintenance Testing Of 150 KVA, Three Phase Transformer, Connected	184.49
26 01 26 00-0032	EA	TTR Or Megger Maintenance Testing Of 225 KVA, Three Phase Transformer, Connected	215.24
26 01 26 00-0033	EA	TTR Or Megger Testing Of 300 KVA, Three Phase Transformer, Connected	276.73

26 01 30 Operation and Maintenance of Facility Electrical Power Generating and Storing Equipment (26 01)

26 01 30 91 Facility Electrical Power Generating and Storing Equipment Restoration (26 01 30)

26 01 30 91-0001		Emergency Generator Permits (26 01 30 91)	
26 01 30 91-0002		Air Pollution Control Board (26 01 30 91-0001)	
26 01 30 91-0003	EA	APCD Permit To Construct And Operate Emergency Generator	4,905.32

26 01 30 99 Facility Electrical Power Generating and Storing Equipment, Facilities Maintenance and Repair (26 01 30)

Note: The Maintenance & Repair section is a listing of common maintenance tasks performed at facilities. Under the System Description column, each task, including its components, is described. Labor-hours have been enhanced, where appropriate, to include setup and delay time. In some cases, the list of steps comprising the task includes most of the potential repairs that could be made on a system. For those tasks, individual items, as appropriate, can be selected from the all-encompassing list.

26 01 30 99-0001		175 KW Gasoline Generator (26 01 30 99)	
26 01 30 99-0002		175 KW, Gasoline Generator, Maintenance And Inspection (26 01 30 99-0001)	
26 01 30 99-0003	EA	Run Test Gasoline Generator (For 175 KW, Gasoline Generator, Maintenance And Inspection)	97.78
26 01 30 99-0004		175 KW, Gasoline Generator, Replace Generator Component (26 01 30 99-0001)	
26 01 30 99-0005	EA	Remove Gasoline Generator (For 175 KW, Gasoline Generator, Replace Generator Component)	4,444.54
26 01 30 99-0006	EA	Install New Gasoline Generator, 175 KW (For 175 KW, Gasoline Generator, Replace Generator Component)	89,761.11
26 01 30 99-0007		750 KW Diesel Generator (26 01 30 99)	
26 01 30 99-0008		750 KW, Diesel Generator, Maintenance And Inspection (26 01 30 99-0007)	
26 01 30 99-0009	EA	Run Test Diesel Generator (For 750 KW, Diesel Generator, Maintenance And Inspection)	97.78
26 01 30 99-0010		750 KW, Diesel Generator, Replace Diesel Generator Component (26 01 30 99-0007)	
26 01 30 99-0011	EA	Remove Diesel Generator (For 750 KW, Diesel Generator, Replace Diesel Generator Component)	6,984.22
26 01 30 99-0012	EA	Install New Diesel Generator, 750 KW (For 750 KW, Diesel Generator, Replace Diesel Generator Component)	253,703.68
26 01 30 99-0013		Transfer Switch (26 01 30 99)	
26 01 30 99-0014		Transfer Switch, Maintenance And Repair (26 01 30 99-0013)	
26 01 30 99-0015	EA	Remove Transfer Switch Coil (For Transfer Switch, Maintenance And Repair)	81.52
26 01 30 99-0016	EA	Install New Transfer Switch Coil (For Transfer Switch, Maintenance And Repair)	380.32
26 01 30 99-0017		Transfer Switch, Maintenance And Inspection (26 01 30 99-0013)	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 30 99-0018	EA	Inspect And Clean Transfer Switch (For Transfer Switch, Maintenance And Inspection).....	61.11	
26 01 30 99-0019		Transfer Switch, Replace Transfer Switch (26 01 30 99-0013)		
26 01 30 99-0020	EA	Remove Transfer Switch (For Transfer Switch, Replace Transfer Switch)	81.52	
26 01 30 99-0021	EA	Install New Transfer Switch, 480 Volt, 3 Pole, 1,200 Amp (For Transfer Switch, Replace Transfer Switch)	26,859.81	
26 01 30 99-0022	EA	Cut, Form, Align And Connect Wires (For Transfer Switch, Replace Transfer Switch).....	18.46	
26 01 30 99-0023	EA	Check Operation Of Switch (For Transfer Switch, Replace Transfer Switch)	2.20	
26 01 30 99-0024		Battery, Wet (26 01 30 99) Note: Includes all required small tools and equipment.		
26 01 30 99-0025		Wet Battery, Maintenance And Inspection (26 01 30 99-0024)		
26 01 30 99-0026	EA	Clean And Maintain Wet Cell Battery (For Wet Battery, Maintenance And Inspection)	61.11	
26 01 30 99-0027		Wet Battery, Replace Battery (26 01 30 99-0024)		
26 01 30 99-0028	EA	Remove Wet Cell Battery (For Wet Battery, Replace Battery)	12.22	
26 01 30 99-0029	EA	Install New Wet Cell Battery (For Wet Battery, Replace Battery).....	684.43	
26 01 30 99-0030		Battery, Dry (26 01 30 99) Note: Includes all required small tools and equipment.		
26 01 30 99-0031		Dry Battery, Maintenance And Inspection (26 01 30 99-0030)		
26 01 30 99-0032	EA	Clean And Maintain Dry Cell Battery (For Dry Battery, Maintenance And Inspection).....	61.11	
26 01 30 99-0033		Dry Battery, Replace Battery (26 01 30 99-0030)		
26 01 30 99-0034	EA	Remove Dry Cell Battery (For Dry Battery, Replace Battery)	12.22	
26 01 30 99-0035	EA	Install New Dry Cell Battery (For Dry Battery, Replace Battery)	198.90	
26 01 30 99-0036		Battery Charger (26 01 30 99) Note: Includes all required small tools and equipment.		
26 01 30 99-0037		Battery Charger, Maintenance And Repair (26 01 30 99-0036)		
26 01 30 99-0038	EA	Repair Battery Charger Component (For Battery Charger, Maintenance And Repair)	426.38	
26 01 30 99-0039		Battery Charger, Maintenance And Inspection (26 01 30 99-0036)		
26 01 30 99-0040	EA	Check Battery Charger (For Battery Charger, Maintenance And Inspection)	195.56	
26 01 30 99-0041		Battery Charger, Replace Charger (26 01 30 99-0036)		
26 01 30 99-0042	EA	Remove Battery Charger (For Battery Charger, Replace Charger)	75.17	
26 01 30 99-0043	EA	Install New Battery Charger (For Battery Charger, Replace Charger)	807.51	
26 01 30 99-0044		Uninterruptible Power Supply (UPS) Battery (26 01 30 99) Note: Includes all required small tools and equipment.		
26 01 30 99-0045		Uninterruptible Power Supply (UPS) Battery, Maintenance And Inspection (26 01 30 99-0044)		
26 01 30 99-0046	EA	UPS Battery Electrical Test (For Uninterruptible Power Supply (UPS) Battery, Maintenance And Inspection)	97.78	
26 01 30 99-0047		Uninterruptible Power Supply (UPS) Battery, Replace Motor Generator Uninterruptible Power Supply (UPS) Battery (26 01 30 99-0044)		
26 01 30 99-0048	EA	Remove UPS Battery (For Uninterruptible Power Supply (UPS) Battery, Replace Motor Generator Uninterruptible Power Supply (UPS) Battery)	162.92	
26 01 30 99-0049	EA	Install New UPS Battery (For Uninterruptible Power Supply (UPS) Battery, Replace Motor Generator Uninterruptible Power Supply (UPS) Battery)	1,131.95	
26 01 30 99-0050		Automatic Transfer Switch Preventative Maintenance (26 01 30 99) Note: Includes all required small tools and equipment.		
26 01 30 99-0051	EA	Annual Preventative Maintenance For Automatic Transfer Switch	73.03	
		Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Inspect Wiring, Wiring Connections And Fuse Blocks For Looseness, Tighten All Connections. 3. Inspect Wiring, Wiring Connections And Fuse Blocks For Charring And Overheating. 4. Inspect Wiring, Wiring Connections And Fuse Blocks For Evidence Of Short-Circuiting. 5. Inspect General Condition Of Transfer Switch And Clean Exterior And Surrounding Area. 6. Fill Out Maintenance Checklist And Report Deficiencies.		
26 01 30 99-0052		15 kVA And Less, Emergency Generator Preventative Maintenance (26 01 30 99) Note: Includes all required small tools and equipment.		

26	26	Electrical
	26 01	Operation and Maintenance of Electrical Systems
	26 01 30	Operation and Maintenance of Facility Electrical Power Generating and Storing Equipment



MINOR CSI UOM DESCRIPTION				TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 30 99-0053	EA	Annual Preventative Maintenance For 15 kVA And Less, Emergency Generator Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Check Engine Oil Level; Add As Required. 3. Change Engine Oil. 4. Change Engine Oil Filter. 5. Check Battery Charge And Electrolyte Specific Gravity; Add Water As Required. 6. Check Terminals For Corrosion; Clean As Required. 7. Check Belt Tension And Wear; Adjust As Required. 8. Check Engine Air Filter; Change As Required. 9. Check Engine Coolant, Add As Required. 10. Check Spark Plug Or Injector Nozzle Condition; Service Or Replace As Required. 11. Check Wiring, Connections And Switches; Adjust As Required. 12. Perform 30 Minute Generator Test Run; Check For Proper Operation. 13. Check Fuel Level; Add As Required. 14. Wipe Dust And Dirt From Engine And Generator. 15. Clean Area Around Generator. 16. Fill Out Maintenance Checklist And Report Deficiencies.		355.03	
26 01 30 99-0054		Over 15 kVA, Emergency Diesel Generator Preventative Maintenance (26 01 30 99) Note: Includes all required small tools and equipment.			
26 01 30 99-0055	EA	Annual Preventative Maintenance For Over 15 kVA, Emergency Diesel Generator Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Check Engine Oil Level; Add As Required. 3. Change Engine Oil. 4. Change Engine Oil Filter. 5. Check Battery Charge And Electrolyte Specific Gravity; Add Water As Required. 6. Check Terminals For Corrosion; Clean As Required. 7. Check Belts for Wear and Proper Tension; Adjust As Required. 8. Check That Crank Case Heater Is Operating. 9. Check Engine Air Filter; Change As Required. 10. Check Engine Coolant; Add As Required. 11. Check Wiring, Connections And Switches; Adjust As Required. 12. Check Spark Plug Or Injector Nozzle Condition; Service Or Replace As Required. 13. Perform 30 Minute Generator Test Run; Check For Proper Operation. 14. Check Fuel Level With Gauge Pole, Add As Required. 15. Wipe Dust And Dirt From Engine And Generator. 16. Clean Area Around Generator. 17. Fill Out Maintenance Checklist And Report Deficiencies.		383.76	
26 01 30 99-0056		Turbine Emergency Diesel Generator Preventative Maintenance (26 01 30 99) Note: Includes all required small tools and equipment.			
26 01 30 99-0057	EA	Annual Preventative Maintenance For Turbine Emergency Diesel Generator Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Check Transmission Oil Level; Add As Required. 3. Change Turbine Oil. 4. Change Turbine Oil Filter. 5. Check That The Crankcase Heater Is Operating Properly. 6. Remove And Install New Turbine Air Filter. 7. Check Wiring, Connections And Switches; Adjust As Required. 8. Check Engine Coolant, Add As Required. 9. Check Starter For Proper Operation, Lubricate As Required. 10. Check Fuel Nozzles And Fuel Regulator, Service Or Replace As Required. 11. Check Ignition Device Condition, Service Or Replace As Required. 12. Perform 30 Minute Generator Test Run, Check For Proper Operation. 13. Check And Record Transmission Oil Pressure And Temperature, And Natural Gas Pressure. 14. Oil Pressure: _____ Oil Temperature: _____ Gas Pressure: _____. 15. Record Running Time: Beginning _____ Hours: Ending _____ Hours. 16. Check That The Charger Is Operating Properly. 17. Check For Any Signs Of Corrosion On Battery Terminals Or Wires. 18. Check The Electrolyte Level In The Batteries, Add As Required. 19. Check Specific Gravity Of The Electrolyte In A 10% Sample Of The Batteries. 20. Check 25% Of Terminal-To-Cell Connection Resistance, Rehabilitate Connections As Required. 21. Apply Anti-Corrosion Grease To Battery Terminals And Connections. 22. Measure And Record Individual Cell And String Float Voltages. 23. Clean Area Around Generator. 25. Fill Out Maintenance Checklist And Report Deficiencies.		1,333.96	
26 01 30 99-0058		Power Stabilizer Preventative Maintenance (26 01 30 99) Note: Includes all required small tools and equipment.			
26 01 30 99-0059	EA	Annual Preventative Maintenance For Power Stabilizer Note: 1. Remove The Covers Or Open The Doors. 2. Check For Signs Of Moisture Or Overheating. 3. Check Fans And Other Auxiliary Devices For Proper Operation. 4. Check For Voltage Creeping Over Transformer Insulated Surface. 5. Look For Evidence Such As Tracking Or Carbonization. 6. Check Condition Of The Ground System. 7. Check Wiring, Connections And Relays; Tighten And Adjust As Required. 8. Reinstall The Covers Or Close The Doors. 9. Clean The Surrounding Area. 10. Fill Out Maintenance Checklist And Report Deficiencies.		77.60	
26 01 30 99-0060		200 kVA And Less, Uninterruptible Power System Preventative Maintenance (26 01 30 99) Note: Includes all required small tools and equipment.			
26 01 30 99-0061	EA	Annual Preventative Maintenance For 200 kVA And Less, Uninterruptible Power System Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Check Electrolyte Level Of Batteries; Add Water As Required. 3. Check Terminals For Corrosion; Clean As Required. 4. Check 25% Of The Batteries For Charge And Electrolyte Specific Gravity. 5. Check Batteries For Cracks Or Leaks; Remove And Install New Batteries As Required. 6. Check 25% Of The Terminal-To-Cell Connection Resistances. 7. Rehabilitate Connections As Required. 8. Apply Anti-Corrosion Grease To Battery Terminals And Connections. 9. Measure And Record Individual Cell And String Float Voltages. 10. Check Integrity Of Battery Rack. 11. Check Battery Room Temperature And Ventilation System. 12. Remove And Install New Air Filters On UPS Modules. 13. Check Output Voltage And Amperages, From Control Panel. 14. Check UPS Room Temperature And Ventilation System. 15. Notify Personnel And Test UPS Fault Alarm System. 16. Clean Around Batteries And UPS Modules. 17. Fill Out Maintenance Checklist And Report Deficiencies.		578.85	
26 01 30 99-0062		201 To 800 kVA, Uninterrupted Power System Preventative Maintenance (26 01 30 99) Note: Includes all required small tools and equipment.			



MINOR CSI UOM DESCRIPTION			TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 30 99-0063	EA	Annual Preventative Maintenance For 201 To 800 kVA, Uninterrupted Power System..... Note: 1. Check With Operating Or Area Personnel For Deficiencies. 2. Check Electrolyte Level Of Batteries; Add Water As Required. 3. Check Terminals For Corrosion; Clean As Required. 4. Check 25% Of The Batteries For Charge And Electrolyte Specific Gravity. 5. Check Batteries For Cracks Or Leaks; Remove And Install New Batteries As Required. 6. Check 25% Of The Terminal-To-Cell Connection Resistances. 7. Rehabilitate Connections As Required. 8. Apply Anti-Corrosion Grease To Battery Terminals And Connections. 9. Measure And Record Individual Cell And String Float Voltages. 10. Check Integrity Of Battery Rack. 11. Check Battery Room Temperature And Ventilation System. 12. Remove And Install New Air Filters On UPS Modules. 13. Check Output Voltage And Amperages, From Control Panel. 14. Check UPS Room Temperature And Ventilation System. 15. Notify Personnel And Test UPS Fault Alarm System. 16. Clean Around Batteries And UPS Modules. 17. Fill Out Maintenance Checklist And Report Deficiencies.	1,278.34	
26 01 30 99-0064		Battery System And Charger Preventative Maintenance (26 01 30 99) Note: Includes all required small tools and equipment.		
26 01 30 99-0065	EA	Annual Preventative Maintenance Of Battery System And Charger Note: 1. Check That The Charger Is Operating Properly. 2. Check For Any Signs Of Corrosion On The Battery Terminals Or Wires. 3. Check The Electrolyte Level In The Batteries, Add As Required. 4. Check The Specific Gravity Of The Electrolyte In A 10% Sample Of The Batteries. 5. Check 25% Of Terminal-To-Cell Connection Resistance, Rehabilitate Connections As Required. 6. Apply Anti-Corrosion Grease To Battery Terminals And Connections. 7. Measure And Record Individual Cell And String Float Voltages. 8. Clean Area Around Batteries.	199.49	
26 01 50 Operation and Maintenance of Lighting (26 01)				
26 01 50 51 Luminaire Relamping (26 01 50)				
26 01 50 51-0001		Replace Lamps In Existing Fixtures (26 01 50 51) Note: Includes removal of existing lamp from fixture and installation of new lamp. Excludes disposal of hazardous lamps.		
26 01 50 51-0002		Halogen Lamps (26 01 50 51-0001)		
26 01 50 51-0003	EA	300 Watt, T3, Tungsten Halogen Lamp	50.22	
26 01 50 51-0004	EA	500 Watt, T3, Tungsten Halogen Lamp	64.37	
26 01 50 51-0005	EA	1,000 Watt, T3, Tungsten Halogen Lamp	95.57	
26 01 50 51-0006	EA	60 Watt, PAR38, Halogen Lamp	25.54	
26 01 50 51-0007	EA	75 Watt, PAR38, Halogen Lamp	25.54	
26 01 50 51-0008	EA	90 Watt, PAR38, Halogen Lamp	24.27	
26 01 50 51-0009	EA	100 Watt, PAR38, Halogen Lamp	24.27	
26 01 50 51-0010	EA	60 Watt, PAR38, Halogen IR Reflective Lamp	36.49	
26 01 50 51-0011	EA	67 Watt, PAR38, Halogen IR Reflective Lamp	40.06	
26 01 50 51-0012	EA	70 Watt, PAR38, Halogen IR Reflective Lamp	39.14	
26 01 50 51-0013	EA	90 Watt, PAR38, Halogen IR Reflective Lamp	41.86	
26 01 50 51-0014	EA	100 Watt, PAR38, Halogen IR Reflective Lamp	42.44	
26 01 50 51-0015	EA	12 Watt, 10 Degree Beam, Base B01, Halogen Lamp (Soraa MR16-65-B01-12-830-10)	22.07	
26 01 50 51-0016	EA	12 Watt, 20 Degree Beam, Base B01, Halogen Lamp (Soraa MR16-75-B01-12-830-20)	22.07	
26 01 50 51-0017	EA	12 Watt, 25 Degree Beam, Base B01, Halogen Lamp (Soraa MR16-75-B01-12-830-25)	24.07	
26 01 50 51-0018	EA	12 Watt, 36 Degree Beam, Base B01, Halogen Lamp (Soraa MR16-75-B01-12-830-36)	24.07	
26 01 50 51-0019		Incandescent Lamps (26 01 50 51-0001)		
26 01 50 51-0020	EA	100 Watt, Frosted, Interior Incandescent Lamp	6.95	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-2.04	
26 01 50 51-0021	EA	150 Watt, Frosted, Interior Incandescent Lamp	8.55	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-2.04	
26 01 50 51-0022	EA	200 Watt, Frosted, Interior Incandescent Lamp	10.34	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-2.04	
26 01 50 51-0023	EA	300 Watt, PS25, Interior Incandescent Lamp	12.60	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-2.04	
26 01 50 51-0024	EA	60 Watt, G25, Clear, Interior Incandescent Lamp	9.56	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-2.04	
26 01 50 51-0025	EA	75 Watt, R20, Interior Incandescent Lamp	14.96	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-2.45	
26 01 50 51-0026	EA	75 Watt, PAR38, Exterior Incandescent Lamp	18.13	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-2.45	
26 01 50 51-0027	EA	100 Watt, PAR38, Exterior Incandescent Lamp	16.86	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-2.45	
26 01 50 51-0028	EA	150 Watt, PAR38, Exterior Incandescent Lamp	28.85	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-2.45	
26 01 50 51-0029	EA	250 Watt, PAR38, Exterior Incandescent Lamp	59.13	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-2.85	
26 01 50 51-0030	EA	300 Watt, PAR56, Exterior Incandescent Lamp	67.93	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-2.85	
26 01 50 51-0031		Exit Light Lamps (26 01 50 51-0001)		
26 01 50 51-0032	EA	Convert Exit Light Lamps To Red LED Lamps	115.28	
		For Green LED Lamps, Add	25.00	
26 01 50 51-0033	EA	Fluorescent Lamp For Exit Light	32.63	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-8.15	
26 01 50 51-0034	EA	Lamp Replacement For Emergency Lights On Exit Sign	41.05	
		For Removal Of Multiple Lamps In A Fixture, Deduct	-4.08	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

26 01 50 51-0035 Fluorescent Lamps (26 01 50 51-0001)		
26 01 50 51-0036	EA 18", 15 Watt, T8 Fluorescent Lamp	12.95
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0037	EA 2', 17 Watt, T8 Fluorescent Lamp	15.60
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0038	EA 3', 25 Watt, T8 Fluorescent Lamp	17.93
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0039	EA 4', 28 Watt, Rapid Start T8 Fluorescent Lamp	18.20
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0040	EA 4', 32 Watt, T8 Fluorescent Lamp	17.75
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0041	EA 4', 30 Watt, T8 Fluorescent Lamp	22.50
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0042	EA 4', 28 Watt, T8 Fluorescent Lamp	19.71
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0043	EA 4', 25 Watt, T8 Fluorescent Lamp	19.60
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0044	EA 4', 44 Watt, T8HO Fluorescent Lamp	31.59
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0045	EA 8', 59 Watt, T8 Fluorescent Lamp	24.06
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0046	EA 18", 15 Watt, T12 Fluorescent Lamp	19.63
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0047	EA 2', 20 Watt, T12 Fluorescent Lamp	14.84
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0048	EA 3', 30 Watt, T12 Fluorescent Lamp	16.67
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0049	EA 4', 34 Watt, T12 Fluorescent Lamp	16.75
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0050	EA 4', 40 Watt, T12 Fluorescent Lamp	16.41
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0051	EA 8', 60 Watt, T12 Fluorescent Lamp	24.67
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0052	EA 8', 75 Watt, T12 Fluorescent Lamp	20.82
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0053	EA 8', 95 Watt, Instant Start T12 Fluorescent Lamp	35.35
26 01 50 51-0054	EA 6" Diameter, 20 Watt, Circular T9 Fluorescent Lamp	19.86
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0055	EA 8" Diameter, 22 Watt, Circular T9 Fluorescent Lamp	16.32
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0056	EA 12" Diameter, 32 Watt, Circular T9 Fluorescent Lamp	15.78
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0057	EA 16" Diameter, 40 Watt, Circular T9 Fluorescent Lamp	17.47
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0058	EA 32 Watt, Rapid Start, U-Shaped T8 Fluorescent Lamp	28.93
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-4.08
26 01 50 51-0059	EA 40 Watt, Rapid Start, U-Shaped T12 Fluorescent Lamp	27.88
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-4.08
26 01 50 51-0060	EA 6", 4 Watt, T5 Fluorescent Lamp	14.38
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0061	EA 9", 6 Watt, T5 Fluorescent Lamp	14.14
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0062	EA 12", 8 Watt, T5 Fluorescent Lamp	14.60
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0063	EA 21", 13 Watt, T5 Fluorescent Lamp	15.28
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0064	EA 24", 14 Watt, T5 Fluorescent Lamp	17.62
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26
26 01 50 51-0065	EA 34", 21 Watt, T5 Fluorescent Lamp	19.17
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0066	EA 46", 28 Watt, T5 Fluorescent Lamp	18.56
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0067	EA 46", 54 Watt, T5HO Fluorescent Lamp	20.32
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67
26 01 50 51-0068	EA 46", 54 Watt T5 Fluorescent Lamp	17.39
26 01 50 51-0069	EA 5-13 Watt, 2-Pin Compact Fluorescent Lamp	11.40
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-2.04
26 01 50 51-0070	EA 9-26 Watt, 4-Pin Compact Fluorescent Lamp	12.62
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-2.04
26 01 50 51-0071	EA 27-55 Watt, 4-Pin Compact Fluorescent Lamp	26.04
	<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-2.04
26 01 50 51-0072	EA Compact Fluorescent 13 Watt, 4-Pin Lamps CF13DD/E/827, Dulux	33.93
26 01 50 51-0073	EA Compact Fluorescent 18 Watt, 4-Pin Lamps CF18DD/E/827, Dulux	33.93
26 01 50 51-0074	EA 32 Watt 2D (DoubledD) Fluorescent Lamp, 4-Pin	64.16
26 01 50 51-0075	EA 26 Watt (1,600 Lumens) 4-pin Quad Tube PL Lamp	23.20
26 01 50 51-0076	EA <9 Watt, Screw-In, Spiral Compact Fluorescent Lamps	11.78
26 01 50 51-0077	EA 9 To 27 Watt, Screw-In, Spiral Compact Fluorescent Lamps	10.16
26 01 50 51-0078	EA 29 To 32 Watt, Screw-In, Spiral Compact Fluorescent Lamps	10.66
26 01 50 51-0079	EA 33 To 42 Watt, Screw-In, Spiral Compact Fluorescent Lamps	44.14
26 01 50 51-0080	EA 43 To 65 Watt, Screw-In, Spiral Compact Fluorescent Lamps	48.16
26 01 50 51-0081	EA 85 Watt, Screw-In, Spiral Compact Fluorescent Lamps	91.78
26 01 50 51-0082	EA 105 Watt, Screw-In, Spiral Compact Fluorescent Lamps	109.95



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 51-0083	EA	200 Watt, Screw-In, Spiral Compact Fluorescent Lamps	113.65	
26 01 50 51-0084	EA	11 Watt, Screw-In, Compact Fluorescent Reflector Lamps	41.15	
26 01 50 51-0085	EA	15 Watt, Screw-In, Compact Fluorescent Reflector Lamps	42.93	
26 01 50 51-0086	EA	20 To 28 Watt, Screw-In, Compact Fluorescent Reflector Lamps	49.59	
26 01 50 51-0087		Metal Halide Lamps (26 01 50 51-0001)		
26 01 50 51-0088	EA	50 Watt, Pulse Start Metal Halide Lamp	50.02	
26 01 50 51-0089	EA	70 Watt, Pulse Start Metal Halide Lamp	47.85	
26 01 50 51-0090	EA	100 Watt, Pulse Start Metal Halide Lamp	54.71	
26 01 50 51-0091	EA	150 Watt, Pulse Start Metal Halide Lamp	53.15	
26 01 50 51-0092	EA	175 Watt, Pulse Start Metal Halide Lamp	52.70	
26 01 50 51-0093	EA	250 Watt, Pulse Start Metal Halide Lamp	53.01	
26 01 50 51-0094	EA	400 Watt, Pulse Start Metal Halide Lamp	63.95	
26 01 50 51-0095	EA	1,000 Watt, Pulse Start Metal Halide Lamp	74.43	
26 01 50 51-0096	EA	1,500 Watt, Pulse Start Metal Halide Lamp	74.00	
26 01 50 51-0097		High Pressure Sodium Lamps (26 01 50 51-0001)		
26 01 50 51-0098	EA	35 Watt, High Pressure Sodium Lamp	41.18	
		For Enclosed And Gasket Light Fixtures, Add	3.14	
26 01 50 51-0099	EA	50 Watt, High Pressure Sodium Lamp	41.18	
		For Enclosed And Gasket Light Fixtures, Add	3.14	
26 01 50 51-0100	EA	70 Watt, High Pressure Sodium Lamp	42.11	
		For Enclosed And Gasket Light Fixtures, Add	3.14	
26 01 50 51-0101	EA	100 Watt, High Pressure Sodium Lamp	43.89	
		For Enclosed And Gasket Light Fixtures, Add	3.14	
26 01 50 51-0102	EA	150 Watt, High Pressure Sodium Lamp	42.11	
		For Enclosed And Gasket Light Fixtures, Add	3.14	
26 01 50 51-0103	EA	250 Watt, High Pressure Sodium Lamp	42.11	
		For Enclosed And Gasket Light Fixtures, Add	3.14	
26 01 50 51-0104	EA	400 Watt, High Pressure Sodium Lamp	39.46	
		For Enclosed And Gasket Light Fixtures, Add	3.14	
26 01 50 51-0105	EA	1,000 Watt, High Pressure Sodium Lamp	92.13	
26 01 50 51-0106		Low Pressure Sodium Lamps (26 01 50 51-0001)		
26 01 50 51-0107	EA	35 Watt, Low Pressure Sodium Lamp	105.59	
26 01 50 51-0108	EA	55 Watt, Low Pressure Sodium Lamp	117.89	
26 01 50 51-0109	EA	70 Watt, Low Pressure Sodium Lamp	120.66	
26 01 50 51-0110	EA	90 Watt, Low Pressure Sodium Lamp	123.44	
26 01 50 51-0111	EA	135 Watt, Low Pressure Sodium Lamp	134.52	
26 01 50 51-0112	EA	180 Watt, Low Pressure Sodium Lamp	184.39	
26 01 50 51-0113		LED Lamps (26 01 50 51-0001)		
26 01 50 51-0114		LED Lamps, Candelabra Base, CA10 (26 01 50 51-0113)		
26 01 50 51-0115	EA	3 Watt (25 Watt Incandescent Equivalent), Candelabra Base, CA10, Dimmable LED Lamp (Energy Star)	16.21	
26 01 50 51-0116		LED Lamps, Medium Base, A19 Or A21 (26 01 50 51-0113)		
26 01 50 51-0117	EA	6 Watt (40 Watt Incandescent Equivalent), Medium Base, A19, Dimmable LED Lamp (Energy Star)	21.47	
26 01 50 51-0118	EA	11 Watt (60 Watt Incandescent Equivalent), Medium Base, A19, Dimmable LED Lamp (Energy Star)	21.47	
26 01 50 51-0119	EA	14 Watt (75 Watt Incandescent Equivalent), Medium Base, A19, Dimmable LED Lamp (Energy Star)	35.59	
26 01 50 51-0120	EA	17 Watt (75 Watt Incandescent Equivalent), Medium Base, A21, Dimmable LED Lamp (Energy Star)	25.04	
26 01 50 51-0121	EA	18 Watt (100 Watt Incandescent Equivalent), Medium Base, A21, Dimmable LED Lamp (Energy Star)	44.41	
26 01 50 51-0122		LED Lamps, Medium Base, BR30 Or BR40 (26 01 50 51-0113)		
26 01 50 51-0123	EA	9.5 Watt (65 Watt Incandescent Equivalent), Medium Base, BR30, Dimmable LED Lamp (Energy Star)	29.08	
26 01 50 51-0124	EA	14 Watt (85 Watt Incandescent Equivalent), Medium Base, BR30, Dimmable LED Lamp (Energy Star)	26.10	
26 01 50 51-0125	EA	11 Watt (65 Watt Incandescent Equivalent), Medium Base, BR40, Dimmable LED Lamp (Energy Star)	34.02	
26 01 50 51-0126	EA	14.5 Watt (75 Watt Incandescent Equivalent), Medium Base, BR40, Dimmable LED Lamp (Energy Star)	28.75	
26 01 50 51-0127	EA	14 Watt (85 Watt Incandescent Equivalent), Medium Base, BR40, Dimmable LED Lamp (Energy Star)	37.55	
26 01 50 51-0128	EA	18 Watt (90 Watt Incandescent Equivalent), Medium Base, BR40, Dimmable LED Lamp (Energy Star)	28.75	
26 01 50 51-0129		LED Lamps, Medium Base, PAR (26 01 50 51-0113)		
26 01 50 51-0130	EA	7 Watt (45 Watt Halogen Equivalent), Medium Base, PAR20, Dimmable LED Lamp (Energy Star)	31.90	
26 01 50 51-0131	EA	12 Watt (60 Watt Halogen Equivalent), Medium Base, Short Neck Par30, Dimmable LED Lamp (Energy Star)	42.86	
26 01 50 51-0132	EA	16.3 Watt (65 Watt Halogen Equivalent), Medium Base, Short Neck PAR30, Dimmable LED Lamp (Energy Star)	42.86	
26 01 50 51-0133	EA	15.6 Watt (70 Watt Halogen Equivalent), Medium Base, Short Neck PAR30, Dimmable LED Lamp (Energy Star)	41.10	
26 01 50 51-0134	EA	12 Watt (50 Watt Halogen Equivalent), Medium Base, Short Neck PAR30, Dimmable LED Lamp (Energy Star)	39.33	
26 01 50 51-0135	EA	15 Watt (75 Watt Halogen Equivalent), Medium Base, Long Neck PAR30, Dimmable LED Lamp (Energy Star)	39.33	
26 01 50 51-0136	EA	18 Watt (90 Watt Halogen Equivalent), Medium Base, Long Neck PAR30, Dimmable LED Lamp (Energy Star)	74.97	
26 01 50 51-0137	EA	15 Watt (75 Watt Halogen Equivalent), Medium Base, PAR38, Dimmable LED Lamp (Energy Star)	42.86	
26 01 50 51-0138	EA	18 Watt (90 Watt Halogen Equivalent), Medium Base, PAR38, Dimmable LED Lamp (Energy Star)	41.10	
26 01 50 51-0139	EA	19 Watt (120 Watt Halogen Equivalent), Medium Base, Par38, Dimmable LED Lamp (Energy Star)	42.86	
26 01 50 51-0140	EA	24 Watt (120 Watt Halogen Equivalent), Medium Base, PAR38, Dimmable LED Lamp (Energy Star)	42.86	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

26 01 50 51-0141		LED Lamps, GU Base, MR16 (26 01 50 51-0113)	
26 01 50 51-0142	EA	4 Watt (20 Watt Halogen Equivalent), GU5.3 Base, MR16, LED Lamp (Energy Star).....	22.57
26 01 50 51-0143	EA	6 Watt (30 Watt Halogen Equivalent), GU10 Base, MR16, Dimmable LED Lamp (Energy Star).....	29.08
26 01 50 51-0144	EA	8 Watt (50 Watt Halogen Equivalent), GU5.3 Base, MR16, Dimmable LED Lamp (Energy Star).....	31.90

26 01 50 51-0145		LED Lamps, PL Series (26 01 50 51-0113)	
26 01 50 51-0146	EA	3.5 Watt, 2-Pin CFL G23 Base, Hybrid Lamp (GreenCreative PLS 3.5 HYB G23).....	16.15
26 01 50 51-0147	EA	26 Watt, 2700K CCT, PL EDGE DiRect Series (Green Creative 9.5PLH/827/DIR).....	21.57
26 01 50 51-0148	EA	26 Watt, 3000K CCT, PL EDGE DiRect Series (Green Creative 9.5PLH/830/DIR).....	18.57
26 01 50 51-0149	EA	26 Watt, 3500K CCT, PL EDGE DiRect Series (Green Creative 9.5PLH/835/DIR).....	20.45
26 01 50 51-0150	EA	26 Watt, 4000K CCT, PL EDGE DiRect Series (Green Creative 9.5PLH/840/DIR).....	20.45
26 01 50 51-0151	EA	26 Watt, 3000K CCT, High CRI, PL EDGE DiRect Series (Green Creative 10.5PLH/930/DIR).....	23.82
26 01 50 51-0152	EA	13-18 Watt, 2700K CCT, PL EDGE DiRect Series (Green Creative 5.5PLH/827/DIR).....	20.45
26 01 50 51-0153	EA	13-18 Watt, 3000K CCT, PL EDGE DiRect Series (Green Creative 5.5PLH/830/DIR).....	20.45
26 01 50 51-0154	EA	13-18 Watt, 3500K CCT, PL EDGE DiRect Series (Green Creative 5.5PLH/835/DIR).....	20.45
26 01 50 51-0155	EA	13-18 Watt, 4000K CCT, PL EDGE DiRect Series (Green Creative 5.5PLH/840/DIR).....	20.45
26 01 50 51-0156	EA	26 Watt, 2700K CCT, PL EDGE DiRect Series (Green Creative 10PLV/827/DIR).....	22.70
26 01 50 51-0157	EA	26 Watt, 3000K CCT, PL EDGE DiRect Series (Green Creative 10PLV/830/DIR).....	22.70
26 01 50 51-0158	EA	26 Watt, 3500K CCT, PL EDGE DiRect Series (Green Creative 10PLV/835/DIR).....	22.70
26 01 50 51-0159	EA	26 Watt, 4000K CCT, PL EDGE DiRect Series (Green Creative 10PLV/840/DIR).....	22.70
26 01 50 51-0160	EA	26 Watt, 3000K CCT, High CRI, PL EDGE DiRect Series (Green Creative 11PLV/930/DIR).....	21.57
26 01 50 51-0161	EA	13-18 Watt, 2700K CCT, PL EDGE DiRect Series (Green Creative 6.5PLV/827/DIR).....	21.57
26 01 50 51-0162	EA	13-18 Watt, 3000K CCT, PL EDGE DiRect Series (Green Creative 6.5PLV/830/DIR).....	21.57
26 01 50 51-0163	EA	13-18 Watt, 3500K CCT, PL EDGE DiRect Series (Green Creative 6.5PLV/835/DIR).....	22.32
26 01 50 51-0164	EA	13-18 Watt, 4000K CCT, PL EDGE DiRect Series (Green Creative 6.5PLV/840/DIR).....	22.32
26 01 50 51-0165	EA	26 Watt, 2700K CCT, PL EDGE BYPass Series (Green Creative 10.5PLH/827/BYP).....	22.49
26 01 50 51-0166	EA	26 Watt, 3000K CCT, PL EDGE BYPass Series (Green Creative 10.5PLH/830/BYP).....	22.49
26 01 50 51-0167	EA	26 Watt, 3500K CCT, PL EDGE BYPass Series (Green Creative 10.5PLH/835/BYP).....	22.49
26 01 50 51-0168	EA	26 Watt, 4000K CCT, PL EDGE BYPass Series (Green Creative 10.5PLH/840/BYP).....	22.49
26 01 50 51-0169	EA	13-18 Watt, 3500K CCT, PL EDGE BYPass Series (Green Creative 6PLH/835/BYP).....	23.07
26 01 50 51-0170	EA	13-18 Watt, 4000K CCT, PL EDGE BYPass Series (Green Creative 6PLH/840/BYP).....	23.07
26 01 50 51-0171	EA	13 Watt, 3000K CCT, PL EDGE BYPass Series (Green Creative 6PLH/830/BYP/E26).....	23.07
26 01 50 51-0172	EA	13 Watt, 3500K CCT, PL EDGE BYPass Series (Green Creative 6PLH/835/BYP/E26).....	23.07
26 01 50 51-0173	EA	13 Watt, 4000K CCT, PL EDGE BYPass Series (Green Creative 6PLH/840/BYP/E26).....	23.07
26 01 50 51-0174	EA	13 Watt, 3000K CCT, PL EDGE BYPass Series (Green Creative 6PLH/830/BYP/GU24).....	23.07
26 01 50 51-0175	EA	13 Watt, 3500K CCT, PL EDGE BYPass Series (Green Creative 6PLH/835/BYP/GU24).....	23.07
26 01 50 51-0176	EA	13 Watt, 4000K CCT, PL EDGE BYPass Series (Green Creative 6PLH/840/BYP/GU24).....	23.07
26 01 50 51-0177	EA	26 Watt, 2700K CCT, PL EDGE BYPass Series (Green Creative 11.5PLV/827/BYP).....	28.93
26 01 50 51-0178	EA	26 Watt, 3000K CCT, PL EDGE BYPass Series (Green Creative 11.5PLV/830/BYP).....	28.93
26 01 50 51-0179	EA	26 Watt, 3500K CCT, PL EDGE BYPass Series (Green Creative 11.5PLV/835/BYP).....	28.93
26 01 50 51-0180	EA	26 Watt, 4000K CCT, PL EDGE BYPass Series (Green Creative 11.5PLV/840/BYP).....	27.58
26 01 50 51-0181	EA	13-18 Watt, 3500K CCT, PL EDGE BYPass Series (Green Creative 7PLV/835/BYP).....	27.58
26 01 50 51-0182	EA	13-18 Watt, 4000K CCT, PL EDGE BYPass Series (Green Creative 7PLV/840/BYP).....	27.58
26 01 50 51-0183	EA	4 Pin, 6 Watt, 560 Lumens 4000K CCT, Horizontal Mount LED PL Lamp (Green Creative 57898).....	26.41

26 01 50 51-0184		HID LED Lamps, Medium Base E26 (26 01 50 51-0113)	
26 01 50 51-0185	EA	27 Watt, 4000K CCT, Medium Base E26, LED Lamp (Green Creative 27HID/840/277V/E26).....	53.45
26 01 50 51-0186	EA	27 Watt, 5000K CCT, Medium Base E26, LED Lamp (Green Creative 27HID/850/277V/E26).....	53.45
26 01 50 51-0187	EA	45 Watt, 4000K CCT, Medium Base E26, LED Lamp (Green Creative 45HID/840/277V/E26).....	67.31
26 01 50 51-0188	EA	45 Watt, 5000K CCT, Medium Base E26, LED Lamp (Green Creative 45HID/850/277V/E26).....	67.31
26 01 50 51-0189	EA	10 Watt, 3000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED10-3026).....	48.20
26 01 50 51-0190	EA	10 Watt, 4000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED10-4026).....	48.20
26 01 50 51-0191	EA	10 Watt, 5000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED10-5026).....	48.20
26 01 50 51-0192	EA	10 Watt, 6000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED10-6026).....	48.20
26 01 50 51-0193	EA	15 Watt, 3000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED15-3026).....	49.70
26 01 50 51-0194	EA	15 Watt, 4000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED15-4026).....	49.70
26 01 50 51-0195	EA	15 Watt, 5000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED15-5026).....	49.70
26 01 50 51-0196	EA	15 Watt, 6000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED15-6026).....	49.70
26 01 50 51-0197	EA	20 Watt, 3000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED20-3026).....	55.70
26 01 50 51-0198	EA	20 Watt, 4000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED20-4026).....	55.70
26 01 50 51-0199	EA	20 Watt, 5000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED20-5026).....	55.70
26 01 50 51-0200	EA	20 Watt, 6000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED20-6026).....	55.70
26 01 50 51-0201	EA	25 Watt, 3000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED25-3026).....	63.20
26 01 50 51-0202	EA	25 Watt, 4000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED25-4026).....	63.20
26 01 50 51-0203	EA	25 Watt, 5000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED25-5026).....	63.20
26 01 50 51-0204	EA	25 Watt, 6000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED25-6026).....	63.20
26 01 50 51-0205	EA	30 Watt, 3000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED30-3026).....	79.69
26 01 50 51-0206	EA	30 Watt, 4000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED30-4026).....	79.69
26 01 50 51-0207	EA	30 Watt, 5000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED30-5026).....	79.69
26 01 50 51-0208	EA	30 Watt, 6000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED30-6026).....	79.69
26 01 50 51-0209	EA	40 Watt, 3000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED40-3026).....	93.94
26 01 50 51-0210	EA	40 Watt, 4000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED40-4026).....	93.94
26 01 50 51-0211	EA	40 Watt, 5000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED40-5026).....	93.94
26 01 50 51-0212	EA	40 Watt, 6000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED40-6026).....	93.94
26 01 50 51-0213	EA	60 Watt, 3000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED60-3026).....	103.69
26 01 50 51-0214	EA	60 Watt, 4000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED60-4026).....	103.69
26 01 50 51-0215	EA	60 Watt, 5000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED60-5026).....	103.69



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 51-0216	EA		60 Watt, 6000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED60-6026)	103.69	
26 01 50 51-0217	EA		80 Watt, 3000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED80-3026)	138.93	
26 01 50 51-0218	EA		80 Watt, 4000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED80-4026)	138.93	
26 01 50 51-0219	EA		80 Watt, 5000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED80-5026)	138.93	
26 01 50 51-0220	EA		80 Watt, 6000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED80-6026)	138.93	
26 01 50 51-0221	EA		100 Watt, 3000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED100-3026)	143.43	
26 01 50 51-0222	EA		100 Watt, 4000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED100-4026)	143.43	
26 01 50 51-0223	EA		100 Watt, 5000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED100-5026)	143.43	
26 01 50 51-0224	EA		100 Watt, 6000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED100-6026)	143.43	
26 01 50 51-0225	EA		120 Watt, 3000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED120-3026)	169.67	
26 01 50 51-0226	EA		120 Watt, 4000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED120-4026)	169.67	
26 01 50 51-0227	EA		120 Watt, 5000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED120-5026)	169.67	
26 01 50 51-0228	EA		120 Watt, 6000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED120-6026)	169.67	
26 01 50 51-0229	EA		150 Watt, 3000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED150-3026)	201.16	
26 01 50 51-0230	EA		150 Watt, 4000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED150-4026)	201.16	
26 01 50 51-0231	EA		150 Watt, 5000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED150-5026)	201.16	
26 01 50 51-0232	EA		150 Watt, 6000K CCT, Medium Base E26, LED Omnidirectional Street Lamp (Bergen industries LED150-6026)	201.16	
26 01 50 51-0233	EA		20 Watt, 4000K CCT, Medium Base E26, LED Post Top Lamp (EIKO industries LED20WPT40KMED-G6)	65.79	
26 01 50 51-0234	EA		20 Watt, 5000K CCT, Medium Base E26, LED Post Top Lamp (EIKO industries LED20WPT50KMED-G6)	71.04	
26 01 50 51-0235	EA		27 Watt, 4000K CCT, Medium Base E26, LED Post Top Lamp (EIKO industries LED27WPT40KMED-G5)	71.04	
26 01 50 51-0236	EA		27 Watt, 5000K CCT, Medium Base E26, LED Post Top Lamp (EIKO industries LED27WPT50KMED-G5)	65.79	
26 01 50 51-0237	EA		36 Watt, 4000K CCT, Medium Base E26, LED Post Top Lamp (EIKO industries LED36WPT40KMED-G5)	82.28	
26 01 50 51-0238	EA		36 Watt, 5000K CCT, Medium Base E26, LED Post Top Lamp (EIKO industries LED36WPT50KMED-G5)	75.54	
26 01 50 51-0239	EA		45 Watt, 4000K CCT, Medium Base E26, LED Post Top Lamp (EIKO industries LED45WPT40KMED-G5)	90.53	
26 01 50 51-0240	EA		45 Watt, 5000K CCT, Medium Base E26, LED Post Top Lamp (EIKO industries LED45WPT50KMED-G5)	89.65	
26 01 50 51-0241	EA		54 Watt, 4000K CCT, Medium Base E26, LED Post Top Lamp (EIKO industries LED54WPT40KMED-G5)	91.66	
26 01 50 51-0242	EA		54 Watt, 5000K CCT, Medium Base E26, LED Post Top Lamp (EIKO industries LED54WPT50KMED-G5)	91.66	
26 01 50 51-0243	EA		27 Watt, 4000K CCT, Medium Base E26, LED Lamp (EIKO industries LED27WPT40KMED-G7)	56.06	
26 01 50 51-0244	EA		27 Watt, 5000K CCT, Medium Base E26, LED Lamp (EIKO industries LED27WPT50KMED-G7)	56.06	
26 01 50 51-0245	EA		36 Watt, 4000K CCT, Medium Base E26, LED Lamp (EIKO industries LED36WPT40KMED-G7)	63.00	
26 01 50 51-0246	EA		36 Watt, 5000K CCT, Medium Base E26, LED Lamp (EIKO industries LED36WPT50KMED-G7)	63.00	
26 01 50 51-0247	EA		45 Watt, 4000K CCT, Medium Base E26, LED Lamp (EIKO industries LED45WPT40KMED-G7)	67.61	
26 01 50 51-0248	EA		45 Watt, 5000K CCT, Medium Base E26, LED Lamp (EIKO industries LED45WPT50KMED-G7)	67.61	
26 01 50 51-0249	EA		54 Watt, 4000K CCT, Medium Base E26, LED Lamp (EIKO industries LED54WPT40KMED-G7)	74.54	
26 01 50 51-0250	EA		54 Watt, 5000K CCT, Medium Base E26, LED Lamp (EIKO industries LED54WPT50KMED-G7)	74.54	
26 01 50 51-0251	EA		20 Watt, 5500K CCT, Medium Base E26, LED Lamp (Olympic CL-20W8-55K-E26)	74.90	
26 01 50 51-0252	EA		30 Watt, 5500K CCT, Medium Base E26, LED Lamp (Olympic CL-30W8-55K-E26)	81.05	
26 01 50 51-0253	EA		40 Watt, 5500K CCT, Medium Base E26, LED Lamp (Olympic CL-40W8-55K-E26)	100.47	
26 01 50 51-0254	EA		50 Watt, 5500K CCT, Medium Base E26, LED Lamp (Olympic CL-50W8-55K-E26)	110.51	
26 01 50 51-0255	EA		10 Watt, 5500K CCT, Medium Base E26, Compact LED Lamp (Olympic CCL-10W12-55K-E26)	44.31	
26 01 50 51-0256	EA		15 Watt, 5500K CCT, Medium Base E26, Compact LED Lamp (Olympic CCL-15W12-55K-E26)	49.70	
26 01 50 51-0257	EA		20 Watt, 5500K CCT, Medium Base E26, Compact LED Lamp (Olympic CCL-20W12-55K-E26)	52.40	
26 01 50 51-0258	EA		25 Watt, 5500K CCT, Medium Base E26, Compact LED Lamp (Olympic CCL-25W12-55K-E26)	57.43	
26 01 50 51-0259	EA		15 Watt, Medium Base E26, LED Self-Ballasted Retrofit Lamp (Neptun LED-N148015-UNV)	68.76	
26 01 50 51-0260	EA		20 Watt, Medium Base E26, LED Self-Ballasted Retrofit Lamp (Neptun LED-N148020-UNV)	80.30	
26 01 50 51-0261	EA		25 Watt, Medium Base E26, LED Self-Ballasted Retrofit Lamp (Neptun LED-N148025-UNV)	109.14	
26 01 50 51-0262	EA		30 Watt, Medium Base E26, LED Self-Ballasted Retrofit Lamp (Neptun LED-N148030-UNV)	114.91	
26 01 50 51-0263	EA		35 Watt, Medium Base E26, LED Self-Ballasted Retrofit Lamp (Neptun LED-N148035-UNV)	124.14	
26 01 50 51-0264	EA		40 Watt, Medium Base E26, LED Self-Ballasted Retrofit Lamp (Neptun LED-N148040-UNV)	129.90	
26 01 50 51-0265	EA		60 Watt, Medium Base E26, LED Self-Ballasted Retrofit Lamp (Neptun LED-N148060-UNV)	186.43	
26 01 50 51-0266	EA		20 Watt, 5000K CCT, 120-277 Volt, E26 (Medium) Base, LED Retrofit Omni-Directional Lamp (HYLITE HL-IOD-20W-E26-50K)	64.23	
26 01 50 51-0267			HID LED Lamps, Mogul Base E39 Or EX39 (26 01 50 51-0113)		
26 01 50 51-0268	EA		120 Watt, 2700K CCT, Mogul Base EX39, HID LED Lamp (Green Creative 120HID/827/277V/EX39)	178.81	
26 01 50 51-0269	EA		120 Watt, 5000K CCT, Mogul Base EX39, HID LED Lamp (Green Creative 120HID/850/277V/EX39)	178.81	
26 01 50 51-0270	EA		120 Watt, 5700 CCT, Mogul Base EX39, HID LED Lamp (Green Creative 120HID/857/277V/EX39)	178.81	
26 01 50 51-0271	EA		27 Watt, 3000K CCT, Mogul Base E39, LED Lamp (Green Creative 27HID/830/277V/EX39)	53.45	
26 01 50 51-0272	EA		27 Watt, 4000K CCT, Mogul Base E39, LED Lamp (Green Creative 27HID/840/277V/EX39/R)	53.45	
26 01 50 51-0273	EA		27 Watt, 5000K CCT, Mogul Base E39, LED Lamp (Green Creative 27HID/850/277V/EX39)	53.45	
26 01 50 51-0274	EA		45 Watt, 3000K CCT, Mogul Base E39, LED Lamp (Green Creative 45HID/830/277V/EX39)	67.31	
26 01 50 51-0275	EA		45 Watt, 4000K CCT, Mogul Base E39, LED Lamp (Green Creative 45HID/840/277V/EX39/R)	67.31	
26 01 50 51-0276	EA		45 Watt, 5000K CCT, Mogul Base E39, LED Lamp (Green Creative 45HID/850/277V/EX39)	67.31	
26 01 50 51-0277	EA		80 Watt, 5000K CCT, Mogul Base E39, LED Lamp (Green Creative 80HID/850/277V/EX39)	123.55	
26 01 50 51-0278	EA		80 Watt, 3000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED80-3039)	138.93	
26 01 50 51-0279	EA		80 Watt, 4000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED80-4039)	138.93	
26 01 50 51-0280	EA		80 Watt, 5000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED80-5039)	138.93	
26 01 50 51-0281	EA		80 Watt, 6000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED80-6039)	138.93	
26 01 50 51-0282	EA		100 Watt, 3000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED100-3039)	143.43	
26 01 50 51-0283	EA		100 Watt, 4000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED100-4039)	143.43	
26 01 50 51-0284	EA		100 Watt, 5000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED100-5039)	143.43	
26 01 50 51-0285	EA		100 Watt, 6000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED100-6039)	143.43	
26 01 50 51-0286	EA		120 Watt, 3000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED120-3039)	169.67	
26 01 50 51-0287	EA		120 Watt, 4000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED120-4039)	169.67	
26 01 50 51-0288	EA		120 Watt, 5000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED120-5039)	169.67	
26 01 50 51-0289	EA		120 Watt, 6000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED120-6039)	169.67	
26 01 50 51-0290	EA		150 Watt, 3000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED150-3039)	201.16	
26 01 50 51-0291	EA		150 Watt, 4000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED150-4039)	201.16	
26 01 50 51-0292	EA		150 Watt, 5000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED150-5039)	201.16	
26 01 50 51-0293	EA		150 Watt, 6000K CCT, Mogul Base E39, LED Omnidirectional Street Lamp (Bergen industries LED150-6039)	201.16	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 51-0294 EA 27 Watt, 4000K CCT, Mogul Base E39, LED Post Top Lamp (EiKO industries LED27WPT40KMOG-G5)	71.04	
26 01 50 51-0295 EA 27 Watt, 5000K CCT, Mogul Base E39, LED Post Top Lamp (EiKO industries LED27WPT50KMOG-G5)	71.04	
26 01 50 51-0296 EA 36 Watt, 4000K CCT, Mogul Base E39, LED Post Top Lamp (EiKO industries LED36WPT40KMOG-G5)	82.28	
26 01 50 51-0297 EA 36 Watt, 5000K CCT, Mogul Base E39, LED Post Top Lamp (EiKO industries LED36WPT50KMOG-G5)	81.25	
26 01 50 51-0298 EA 45 Watt, 4000K CCT, Mogul Base E39, LED Post Top Lamp (EiKO industries LED45WPT40KMOG-G5)	90.53	
26 01 50 51-0299 EA 45 Watt, 5000K CCT, Mogul Base E39, LED Post Top Lamp (EiKO industries LED45WPT50KMOG-G5)	89.65	
26 01 50 51-0300 EA 54 Watt, 4000K CCT, Mogul Base E39, LED Post Top Lamp (EiKO industries LED54WPT40KMOG-G5)	91.66	
26 01 50 51-0301 EA 54 Watt, 5000K CCT, Mogul Base E39, LED Post Top Lamp (EiKO industries LED54WPT50KMOG-G5)	89.05	
26 01 50 51-0302 EA 100 Watt, 4000K CCT, Mogul Base E39, LED Post Top Lamp (EiKO industries LED100WPT40KMOG-G5)	191.00	
26 01 50 51-0303 EA 20 Watt, 4000K CCT, Mogul Base E39, Horizontal LED Lamp (EiKO industries LED20WPT/180/40KMOG-G7)	71.01	
26 01 50 51-0304 EA 20 Watt, 5000K CCT, Mogul Base E39, Horizontal LED Lamp (EiKO industries LED20WPT/180/50KMOG-G7)	71.01	
26 01 50 51-0305 EA 30 Watt, 4000K CCT, Mogul Base E39, Horizontal LED Lamp (EiKO industries LED30WPT/180/40KMOG-G7)	80.34	
26 01 50 51-0306 EA 30 Watt, 5000K CCT, Mogul Base E39, Horizontal LED Lamp (EiKO industries LED30WPT/180/50KMOG-G7)	80.34	
26 01 50 51-0307 EA 40 Watt, 4000K CCT, Mogul Base E39, Horizontal LED Lamp (EiKO industries LED40WPT/180/40KMOG-G7)	85.95	
26 01 50 51-0308 EA 40 Watt, 5000K CCT, Mogul Base E39, Horizontal LED Lamp (EiKO industries LED40WPT/180/50KMOG-G7)	85.95	
26 01 50 51-0309 EA 27 Watt, 4000K CCT, Mogul Base E39, LED Lamp (EiKO industries LED27WPT40KMOG-G7)	55.97	
26 01 50 51-0310 EA 27 Watt, 5000K CCT, Mogul Base E39, LED Lamp (EiKO industries LED27WPT50KMOG-G7)	55.97	
26 01 50 51-0311 EA 36 Watt, 4000K CCT, Mogul Base E39, LED Lamp (EiKO industries LED36WPT40KMOG-G7)	63.00	
26 01 50 51-0312 EA 36 Watt, 5000K CCT, Mogul Base E39, LED Lamp (EiKO industries LED36WPT50KMOG-G7)	63.00	
26 01 50 51-0313 EA 45 Watt, 4000K CCT, Mogul Base E39, LED Lamp (EiKO industries LED45WPT40KMOG-G7)	67.61	
26 01 50 51-0314 EA 45 Watt, 5000K CCT, Mogul Base E39, LED Lamp (EiKO industries LED45WPT50KMOG-G7)	67.61	
26 01 50 51-0315 EA 54 Watt, 4000K CCT, Mogul Base E39, LED Lamp (EiKO industries LED54WPT40KMOG-G7)	74.54	
26 01 50 51-0316 EA 54 Watt, 5000K CCT, Mogul Base E39, LED Lamp (EiKO industries LED54WPT50KMOG-G7)	74.54	
26 01 50 51-0317 EA 65 Watt, 5500K CCT, Mogul Base E39, LED Lamp (Olympic CL-65W8-55K-E39)	132.93	
26 01 50 51-0318 EA 80 Watt, 5500K CCT, Mogul Base E39, LED Lamp (Olympic CL-80W8-55K-E39)	153.48	
26 01 50 51-0319 EA 100 Watt, 5500K CCT, Mogul Base E39, LED Lamp (Olympic CL-100W8-55K-E39)	182.72	
26 01 50 51-0320 EA 120 Watt, 5500K CCT, Mogul Base E39, LED Lamp (Olympic CL-120W8-55K-E39)	354.92	
26 01 50 51-0321 EA 150 Watt, 5500K CCT, Mogul Base E39, LED Lamp (Olympic CL-150W8-55K-E39)	335.25	
26 01 50 51-0322 EA 200 Watt, 5500K CCT, Mogul Base E39, LED Lamp (Olympic CL-200W8-55K-E39)	354.92	
26 01 50 51-0323 EA 250 Watt, 5500K CCT, Mogul Base E39, LED Lamp (Olympic CL-250W8-55K-E39)	356.45	
26 01 50 51-0324 EA 24 Watt, 3000K CCT, Mogul Base E39, LED Lamp (Light Efficient Design LED-8029M30-A)	55.63	
26 01 50 51-0325 EA 24 Watt, 4000K CCT, Mogul Base E39, LED Lamp (Light Efficient Design LED-8029M40-A)	55.63	
26 01 50 51-0326 EA 24 Watt, 5700K CCT, Mogul Base E39, LED Lamp (Light Efficient Design LED-8029M57-A)	55.63	
26 01 50 51-0327 EA 100 Watt, Mogul Base E39, LED Area Lamp (MaxLife AR100LED50)	162.10	
26 01 50 51-0328 EA 115 Watt, 4000K CCT, Mogul Base EX39, HID LED Lamp (Keystone KT-LED115HID-V-EX39-840-D)	410.42	
26 01 50 51-0329 EA 40 Watt, 120-277 Volt, 5000K CCT, E39 Base, LED Arc-Cob Lamp (HYLITE HL-AC-40W-E39-50K)	168.14	
26 01 50 51-0330 EA 100 Watt, 480 Volt, 5000K CCT, E39 Base, LED Omni-Cob Lamp (HYLITE HL-OC-100W-E39-50K)	197.84	
26 01 50 51-0331 EA 45 Watt, 120-277 Volt, 5000K CCT, E39 Base, LED Omni-Cob Lamp (HYLITE HL-OC-45W-E39-50K)	87.98	
26 01 50 51-0332 EA 40 Watt, 5680 Lumens, Mogul Base E39, LED Directional Flood Lamp (HYLITE HL-IDL-40W-E39-50K)	286.16	
26 01 50 51-0333 LED Lamps, 2G11 Base (26 01 50 51-0113)		
26 01 50 51-0334 EA 19 Watt, 1550 Lumens, 3500K CCT, 2G11 Base, Dimmable LED Lamp (Green Creative 14.5PLL/835/DIR)	48.17	
26 01 50 51-0335 LED Lamps, GX23 Or G23 Base (26 01 50 51-0113)		
26 01 50 51-0336 EA 5 Watt, 580 Lumens, 2 Pin GX23 Base, Dimmable LED Lamp (Lunera HN-H-GX23-U-5W-840-G4)	23.71	
26 01 50 51-0337 LED Lamps, G24 Base (26 01 50 51-0113)		
26 01 50 51-0338 EA 5.5 Watt, 500 Lumens, G24 Base, LED Lamp (Green Creative 5.5PLH/835/DIR/R)	30.80	
26 01 50 51-0339 LED Tubes (Fluorescent Lamp Replacement) (26 01 50 51-0113)		
26 01 50 51-0340 EA 2', 1,250 Lumens, 4000K CCT, LED Tube (T8 Fluorescent Lamp Replacement) (Remphos RPT-TOTALTUBEG2-T8-24IN-4000K)	42.26	
<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26	
26 01 50 51-0341 EA 2', 1,900 Lumens, 4000K CCT, LED Tube (T8 Fluorescent Lamp Replacement) (Remphos RPT-TOTALTUBEG2-T8-24INU-4000K)	55.00	
<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26	
26 01 50 51-0342 EA 3', 1,900 Lumens, 4000K CCT, LED Tube (T8 Fluorescent Lamp Replacement) (Remphos RPT-TOTALTUBEG2-T8-36IN-4000K)	45.53	
<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.47	
26 01 50 51-0343 EA 4', 1,900 Lumens, 4000K CCT, LED Tube (T8 Fluorescent Lamp Replacement) (Remphos RPT-TOTALTUBEG2-T8-48IN-4000K)	49.87	
<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67	
26 01 50 51-0344 EA 4', 2,200 Lumens, 4000K CCT, LED Tube (T8 Fluorescent Lamp Replacement) (Remphos RPT-TOTALTUBEG2HO-T8-48IN-4000K)	54.65	
<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67	
26 01 50 51-0345 EA 4', 2,539 Lumens, LED Tube (T8 Fluorescent Lamp Replacement) (Carson Technology CT-D02018TBN)	34.33	
<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67	
26 01 50 51-0346 EA 2', 1,348 Lumens, LED Tube (T8 Fluorescent Lamp Replacement) (Carson Technology CT-D02010TBN)	33.09	
<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26	
26 01 50 51-0347 EA 2', 1,100 Lumens, LED Tube (T8 Fluorescent Lamp Replacement) (Sylvania LED9T8/L24/FG/835/BF)	30.13	
<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.26	
26 01 50 51-0348 EA 3', 1,650 Lumens, LED Tube (T8 Fluorescent Lamp Replacement) (Sylvania LED12T8/L36/FG/835/BF)	30.65	
<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.47	
26 01 50 51-0349 EA 4', 1,700 Lumens, LED Tube (T8 Fluorescent Lamp Replacement) (Sylvania LED14T8/L48/FG/835/BF)	30.65	
<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67	
26 01 50 51-0350 EA 4', 2,100 Lumens, LED Tube (T8 Fluorescent Lamp Replacement) (Sylvania LED17T8/L48/FG/835/BF)	31.78	
<i>For Removal Of Multiple Lamps In A Fixture, Deduct</i>	-3.67	



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 51-0351 Filament LED Lamps (26 01 50 51-0113)		
26 01 50 51-0352 EA 7.5 Watt, 2700K CCT, Clear A19 Filament LED Lamp (Green Creative 7.5FA19DIM/827).....	17.90	
26 01 50 51-0353 EA 4.5 Watt, 2700K CCT, Clear A19 Filament LED Lamp (Green Creative 4.5A19DIM/827/R).....	17.90	
26 01 50 51-0354 EA 4.5 Watt, 2700K CCT, Clear A19 Filament LED Lamp (Green Creative 4.5FA19DIM/827).....	17.15	
26 01 50 51-0355 EA 4.5 Watt, 2400 CCT, Amber A19 Filament LED Lamp (Green Creative 4.5FA19DIM/824/A).....	17.15	
26 01 50 51-0356 EA 4.5 Watt, 2700K CCT, Clear G25 Globe Filament LED Lamp (Green Creative 4.5FG25DIM/827).....	18.35	
26 01 50 51-0357 EA 4.5 Watt, 2400 CCT, Amber G25 Globe Filament LED Lamp (Green Creative 4.5FG25DIM/824/A).....	18.35	
26 01 50 51-0358 EA 3.5 Watt, 2700K CCT, Clear B10 Candle Filament LED Lamp (Green Creative 3.5FB10DIM/827).....	15.65	
26 01 50 51-0359 EA 3.5 Watt, 2700K CCT, Clear B11 Candle Filament LED Lamp (Green Creative 3.5FB11DIM/827/E26).....	15.65	
26 01 50 51-0360 EA 3.5 Watt, 2400 CCT, Amber B10 Candle Filament LED Lamp (Green Creative 3.5FBA10DIM/824/FT/A).....	16.10	
26 01 50 51-0361 EA 3.5 Watt, 2400 CCT, Amber ST19 Filament LED Lamp (Green Creative 5FST19DIM/824/A).....	19.40	
26 01 50 51-0362 EA 4.5 Watt, 120 Volt 450 Lumens ULTRA LED Filament Lamp (Sylvania 79521).....	22.99	
26 01 50 51-0363 Other Lamps (26 01 50 51-0113)		
26 01 50 51-0364 EA 8 Watt, Medium Base, A19, A-Shape Dimmable LED Lamp (Philips 8A19/END/2700 DIM 6/1).....	17.03	
26 01 50 51-0365 EA 8 Watt, Medium Base, A19, A-Shape Dimmable LED Lamp (Philips 7A19/2700 DIM).....	17.03	
26 01 50 51-0366 EA 11 Watt, Medium Base, A19, A-Shape Dimmable LED Lamp (Philips 11A19/2700 DIM).....	17.03	
26 01 50 51-0367 EA 12 Watt, Medium Base, Dimmable BR40 LED Lamp (Philips 12BR40/F90 2700 DIM AF 6/1).....	17.78	
26 01 50 51-0368 EA 13 Watt, Medium Base, Dimmable PAR38 LED Single Optic Lamp (Philips 13PAR38/S15 4000 DIM AF SO 6/1).....	17.78	
26 01 50 51-0369 EA 8 Watt, Medium Base, Dimmable PAR20 LED Lamp (Philips 8PAR20/END/F36 3000 DIM 6/1).....	17.78	
26 01 50 51-0370 LED Lamps, Light Engines, Round, LER Series (26 01 50 51-0113)		
26 01 50 51-0371 EA 5.5" Diameter, 17 Watt, 3000K CCT, Round LED Light Engine (Maxille LER5.5A1730).....	55.46	
26 01 50 51-0372 EA 9 Watt, 120 Volt, 800 Lumens, 2700K, Omnidirectional Ultra LED A-line Lamp (Sylvania LED9A19/DIM/O/827/U).....	31.88	
26 01 50 51-0373 Remove Hazardous Lamps From Fixture For Recycling (26 01 50 51) Note: Excludes containers, shipping costs and recycling fees. See CSI section 26 01 50 51-0382 for recycling hazardous lamps.		
26 01 50 51-0374 EA Removal Of 2' Length Linear Fluorescent Lamps.....	4.33	
For Removal Of Multiple Lamps In A Fixture, Deduct	-1.43	
26 01 50 51-0375 EA Removal Of 3' Length Linear Fluorescent Lamps.....	4.94	
For Removal Of Multiple Lamps In A Fixture, Deduct	-1.63	
26 01 50 51-0376 EA Removal Of 4' Length Linear Fluorescent Lamps.....	5.55	
For Removal Of Multiple Lamps In A Fixture, Deduct	-1.83	
26 01 50 51-0377 EA Removal Of 6' Length Linear Fluorescent Lamps.....	6.18	
For Removal Of Multiple Lamps In A Fixture, Deduct	-2.04	
26 01 50 51-0378 EA Removal Of 8' Length Linear Fluorescent Lamps.....	6.79	
For Removal Of Multiple Lamps In A Fixture, Deduct	-2.24	
26 01 50 51-0379 EA Removal Of Compact Fluorescent Lamps.....	3.70	
For >25 To 40, Deduct	-0.37	
For >40, Deduct	-0.74	
26 01 50 51-0380 EA Removal Of U-Shaped Or Circular Fluorescent Lamps.....	5.87	
For >25 To 40, Deduct	-0.59	
For >40, Deduct	-1.17	
26 01 50 51-0381 EA Removal Of High Intensity Discharge (HID) Or Metal Halide Lamps.....	10.50	
For >25 To 40, Deduct	-1.05	
For >40, Deduct	-2.10	
26 01 50 51-0382 Recycle Hazardous Lamps (26 01 50 51) Note: Includes containers, shipping costs and recycling fees. Excludes lamp removal. See CSI section 26 01 50 51-0001 for removal of lamps from fixtures.		
26 01 50 51-0383 EA Recycle 2' Length Linear Fluorescent Lamps.....	1.73	
26 01 50 51-0384 EA Recycle 3' Length Linear Fluorescent Lamps.....	2.22	
26 01 50 51-0385 EA Recycle 4' Length Linear Fluorescent Lamps.....	2.71	
26 01 50 51-0386 EA Recycle 6' Length Linear Fluorescent Lamps.....	3.83	
26 01 50 51-0387 EA Recycle 8' Length Linear Fluorescent Lamps.....	4.80	
26 01 50 51-0388 EA Recycle Compact Fluorescent Lamps.....	4.42	
26 01 50 51-0389 EA Recycle U-Shaped Or Circular Fluorescent Lamps.....	4.42	
26 01 50 51-0390 EA Recycle High Intensity Discharge (HID) Lamps.....	6.99	
26 01 50 52 Ballasts Replacement (26 01 50)		
26 01 50 52-0001 Lighting Ballasts (26 01 50 52) Note: Excludes recycling fees. See CSI section 02 84 16 00-0003 for ballast recycling.		
26 01 50 52-0002 Fluorescent Ballasts (26 01 50 52-0001)		
26 01 50 52-0003 T5 Fluorescent Ballasts (26 01 50 52-0002)		
26 01 50 52-0004 T5 Fluorescent Electronic Ballasts (26 01 50 52-0003) Note: Includes 120/277 Volt and normal ballast factor.		
26 01 50 52-0005 14 Watt, T5 Fluorescent Electronic Ballasts (26 01 50 52-0004)		
26 01 50 52-0006 EA 1 Lamp, 14 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast.....	133.14	24.70
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
For High Ballast Factor, Add	7.61	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 52-0007 EA 2 Lamp, 14 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i> <i>For High Ballast Factor, Add</i>	139.31 9.26 7.61	30.87
26 01 50 52-0008 21 Watt, T5 Fluorescent Electronic Ballasts (26 01 50 52-0004)		
26 01 50 52-0009 EA 1 Lamp, 21 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i> <i>For High Ballast Factor, Add</i>	133.14 7.41 7.61	24.70
26 01 50 52-0010 EA 2 Lamp, 21 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i> <i>For High Ballast Factor, Add</i>	139.31 9.26 7.61	30.87
26 01 50 52-0011 28 Watt, T5 Fluorescent Electronic Ballasts (26 01 50 52-0004)		
26 01 50 52-0012 EA 1 Lamp, 28 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i> <i>For High Ballast Factor, Add</i>	133.14 7.41 7.61	24.70
26 01 50 52-0013 EA 2 Lamp, 28 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i> <i>For High Ballast Factor, Add</i>	139.31 9.26 7.61	30.87
26 01 50 52-0014 35 Watt, T5 Fluorescent Electronic Ballasts (26 01 50 52-0004)		
26 01 50 52-0015 EA 1 Lamp, 35 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	133.14 7.41	24.70
26 01 50 52-0016 EA 2 Lamp, 35 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	139.31 9.26	30.87
26 01 50 52-0017 54 Watt, T5 Fluorescent Electronic Ballasts (26 01 50 52-0004)		
26 01 50 52-0018 EA 1 Lamp, 54 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	132.98 7.41	24.70
26 01 50 52-0019 EA 2 Lamp, 54 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	139.15 9.26	30.87
26 01 50 52-0020 EA 3 Lamp, 54 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	190.87 11.12	37.05
26 01 50 52-0021 EA 4 Lamp, 54 Watt, Program/Rapid Start, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	197.04 12.97	43.22
26 01 50 52-0022 High-Output, T5HO Fluorescent Electronic Ballasts (26 01 50 52-0003) Note: Includes 120/277 Volt and normal ballast factor.		
26 01 50 52-0023 12 Watt, High-Output, T5HO Fluorescent Electronic Ballasts (26 01 50 52-0022)		
26 01 50 52-0024 EA 1 Lamp, 12 Watt, Programmed Start, High-Output, T5HO Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	111.51 7.41	24.70
26 01 50 52-0025 EA 2 Lamp, 12 Watt, Programmed Start, High-Output, T5HO Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	117.68 9.26	30.87
26 01 50 52-0026 24 Watt, High-Output, T5HO Fluorescent Electronic Ballasts (26 01 50 52-0022)		
26 01 50 52-0027 EA 1 Lamp, 24 Watt, Programmed Start, High-Output, T5HO Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	146.08 7.41	24.70
26 01 50 52-0028 EA 2 Lamp, 24 Watt, Programmed Start, High-Output, T5HO Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	152.25 9.26	30.87
26 01 50 52-0029 39 Watt, High-Output, T5HO Fluorescent Electronic Ballasts (26 01 50 52-0022)		
26 01 50 52-0030 EA 1 Lamp, 39 Watt, Programmed Start, High-Output, T5HO Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	146.08 7.41	24.70
26 01 50 52-0031 EA 2 Lamp, 39 Watt, Programmed Start, High-Output, T5HO Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	152.25 9.26	30.87
26 01 50 52-0032 54 Watt, High-Output, T5HO Fluorescent Electronic Ballasts (26 01 50 52-0022)		
26 01 50 52-0033 EA 1 Lamp, 54 Watt, Programmed Start, High-Output, T5HO Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	111.51 7.41	24.70
26 01 50 52-0034 EA 2 Lamp, 54 Watt, Programmed Start, High-Output, T5HO Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	117.68 9.26	30.87
26 01 50 52-0035 Dimming, T5 Fluorescent Electronic Ballasts (26 01 50 52-0003)		
26 01 50 52-0036 Step Dimming, T5 Fluorescent Electronic Ballasts (26 01 50 52-0035) Note: Includes 120/277 Volt and normal ballast factor.		
26 01 50 52-0037 28 Watt, Step Dimming, T5 Fluorescent Electronic Ballast (26 01 50 52-0036)		
26 01 50 52-0038 EA 2 Lamp, 28 Watt, Programmed Start, Step Dimming, T5 Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	123.52 9.26	30.87



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 52-0039		Dimming To 5%, T5 Fluorescent Electronic Ballasts (26 01 50 52-0039) Note: Includes 120/277 Volt and normal ballast factor.		
26 01 50 52-0040		54 Watt, Dimming To 5%, High-Output, T5HO Fluorescent Electronic Ballasts (26 01 50 52-0039)		
26 01 50 52-0041	EA	1 Lamp, 54 Watt, Programmed Start, Dimming To 5%, High-Output, T5HO Fluorescent Electronic Ballast.....	473.58	24.70
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0042	EA	2 Lamp, 54 Watt, Programmed Start, Dimming To 5%, High-Output, T5HO Fluorescent Electronic Ballast.....	466.68	30.87
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0043		T8 Fluorescent Ballasts (26 01 50 52-0002)		
26 01 50 52-0044		T8 Fluorescent Electronic Ballasts (26 01 50 52-0043) Note: Includes 120/277 Volt and low or normal ballast factor.		
26 01 50 52-0045		17 Watt, T8 Fluorescent Electronic Ballasts (26 01 50 52-0044)		
26 01 50 52-0046	EA	1 Lamp, 17 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	57.81	24.70
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
		For High Ballast Factor, Add	18.52	
26 01 50 52-0047	EA	1 Lamp, 17 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	102.37	24.70
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
		For High Ballast Factor, Add	12.18	
26 01 50 52-0048	EA	2 Lamp, 17 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	63.98	30.87
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
		For High Ballast Factor, Add	18.52	
26 01 50 52-0049	EA	2 Lamp, 17 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	108.54	30.87
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
		For High Ballast Factor, Add	12.18	
26 01 50 52-0050	EA	3 Lamp, 17 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	77.99	37.05
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
		For High Ballast Factor, Add	18.03	
26 01 50 52-0051	EA	3 Lamp, 17 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	121.57	37.05
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
		For High Ballast Factor, Add	10.36	
26 01 50 52-0052	EA	4 Lamp, 17 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	89.24	43.22
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
		For High Ballast Factor, Add	45.66	
26 01 50 52-0053	EA	4 Lamp, 17 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	133.08	43.22
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
		For High Ballast Factor, Add	26.65	
26 01 50 52-0054		25 Watt, T8 Fluorescent Electronic Ballasts (26 01 50 52-0044)		
26 01 50 52-0055	EA	1 Lamp, 25 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	57.81	24.70
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
		For High Ballast Factor, Add	18.52	
26 01 50 52-0056	EA	1 Lamp, 25 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	102.37	24.70
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
		For High Ballast Factor, Add	12.18	
26 01 50 52-0057	EA	2 Lamp, 25 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	63.98	30.87
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
		For High Ballast Factor, Add	18.52	
26 01 50 52-0058	EA	2 Lamp, 25 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	108.54	30.87
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
		For High Ballast Factor, Add	12.18	
26 01 50 52-0059	EA	3 Lamp, 25 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	77.99	37.05
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
		For High Ballast Factor, Add	18.03	
26 01 50 52-0060	EA	3 Lamp, 25 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	121.57	37.05
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
		For High Ballast Factor, Add	10.36	
26 01 50 52-0061	EA	4 Lamp, 25 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	89.24	43.22
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
		For High Ballast Factor, Add	45.66	
26 01 50 52-0062	EA	4 Lamp, 25 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	133.08	43.22
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
		For High Ballast Factor, Add	26.65	
26 01 50 52-0063		28 Watt, T8 Fluorescent Electronic Ballasts (26 01 50 52-0044)		
26 01 50 52-0064	EA	1 Lamp, 28 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	57.81	24.70
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
		For High Ballast Factor, Add	18.52	
26 01 50 52-0065	EA	1 Lamp, 28 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	102.37	24.70
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
		For High Ballast Factor, Add	12.18	
26 01 50 52-0066	EA	2 Lamp, 28 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	63.98	30.87
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
		For High Ballast Factor, Add	18.52	
26 01 50 52-0067	EA	2 Lamp, 28 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	108.54	30.87
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
		For High Ballast Factor, Add	12.18	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 52-0068 EA 3 Lamp, 28 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	77.99	37.05
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
For High Ballast Factor, Add	18.03	
26 01 50 52-0069 EA 3 Lamp, 28 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	121.57	37.05
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
For High Ballast Factor, Add	10.36	
26 01 50 52-0070 EA 4 Lamp, 28 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	89.24	43.22
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
For High Ballast Factor, Add	45.66	
26 01 50 52-0071 EA 4 Lamp, 28 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	133.08	43.22
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
For High Ballast Factor, Add	26.65	
26 01 50 52-0072 32 Watt, T8 Fluorescent Electronic Ballasts (26 01 50 52-0044)		
26 01 50 52-0073 EA 1 Lamp, 32 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	57.81	24.70
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
For High Ballast Factor, Add	18.52	
26 01 50 52-0074 EA 1 Lamp, 32 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	102.37	24.70
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
For High Ballast Factor, Add	12.18	
26 01 50 52-0075 EA 2 Lamp, 32 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	63.98	30.87
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
For High Ballast Factor, Add	18.52	
26 01 50 52-0076 EA 2 Lamp, 32 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	108.54	30.87
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
For High Ballast Factor, Add	12.18	
26 01 50 52-0077 EA 3 Lamp, 32 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	77.99	37.05
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
For High Ballast Factor, Add	18.03	
26 01 50 52-0078 EA 3 Lamp, 32 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	121.57	37.05
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
For High Ballast Factor, Add	10.36	
26 01 50 52-0079 EA 4 Lamp, 32 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	89.24	43.22
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
For High Ballast Factor, Add	45.66	
26 01 50 52-0080 EA 4 Lamp, 32 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	133.08	43.22
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
For High Ballast Factor, Add	26.65	
26 01 50 52-0081 40 Watt, T8 Fluorescent Electronic Ballasts (26 01 50 52-0044)		
26 01 50 52-0082 EA 1 Lamp, 40 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	92.93	24.70
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
For High Ballast Factor, Add	7.92	
26 01 50 52-0083 EA 1 Lamp, 40 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	102.37	24.70
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
For High Ballast Factor, Add	12.18	
26 01 50 52-0084 EA 2 Lamp, 40 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	99.10	30.87
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
For High Ballast Factor, Add	7.92	
26 01 50 52-0085 EA 2 Lamp, 40 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	108.54	30.87
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
For High Ballast Factor, Add	12.18	
26 01 50 52-0086 EA 3 Lamp, 40 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	123.86	37.05
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
For High Ballast Factor, Add	4.87	
26 01 50 52-0087 EA 3 Lamp, 40 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	121.57	37.05
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0088 EA 4 Lamp, 40 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	130.03	43.22
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
For High Ballast Factor, Add	4.87	
26 01 50 52-0089 EA 4 Lamp, 40 Watt, Program/Rapid Start, T8 Fluorescent Electronic Ballast.....	133.08	43.22
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
26 01 50 52-0090 96 Watt, T8 Fluorescent Electronic Ballasts (26 01 50 52-0044)		
26 01 50 52-0091 EA 1 Lamp, 96 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	111.51	24.70
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
For High Ballast Factor, Add	16.97	
26 01 50 52-0092 EA 2 Lamp, 96 Watt, Instant Start, T8 Fluorescent Electronic Ballast.....	117.68	30.87
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
For High Ballast Factor, Add	16.97	
26 01 50 52-0093 High-Output, T8HO Fluorescent Electronic Ballasts (26 01 50 52-0043)		
Note: Includes 120/277 Volt and normal ballast factor.		
26 01 50 52-0094 48 Watt, High-Output, T8HO Fluorescent Electronic Ballasts (26 01 50 52-0093)		
26 01 50 52-0095 EA 1 Lamp, 48 Watt, Instant Start, High-Output, T8HO Fluorescent Electronic Ballast.....	135.42	24.70
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0096 EA 1 Lamp, 48 Watt, Programmed Start, High-Output, T8HO Fluorescent Electronic Ballast.....	176.72	24.70
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 52-0097	EA		2 Lamp, 48 Watt, Instant Start, High-Output, T8HO Fluorescent Electronic Ballast	141.59	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0098	EA		2 Lamp, 48 Watt, Programmed Start, High-Output, T8HO Fluorescent Electronic Ballast	182.89	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0099			60 Watt, High-Output, T8HO Fluorescent Electronic Ballasts (26 01 50 52-0093)		
26 01 50 52-0100	EA		1 Lamp, 60 Watt, Instant Start, High-Output, T8HO Fluorescent Electronic Ballast	135.42	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0101	EA		1 Lamp, 60 Watt, Programmed Start, High-Output, T8HO Fluorescent Electronic Ballast	176.72	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0102	EA		2 Lamp, 60 Watt, Instant Start, High-Output, T8HO Fluorescent Electronic Ballast	141.59	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0103	EA		2 Lamp, 60 Watt, Programmed Start, High-Output, T8HO Fluorescent Electronic Ballast	182.89	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0104			72 Watt, High-Output, T8HO Fluorescent Electronic Ballasts (26 01 50 52-0093)		
26 01 50 52-0105	EA		1 Lamp, 72 Watt, Instant Start, High-Output, T8HO Fluorescent Electronic Ballast	135.42	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0106	EA		1 Lamp, 72 Watt, Programmed Start, High-Output, T8HO Fluorescent Electronic Ballast	176.72	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0107	EA		2 Lamp, 72 Watt, Instant Start, High-Output, T8HO Fluorescent Electronic Ballast	141.59	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0108	EA		2 Lamp, 72 Watt, Programmed Start, High-Output, T8HO Fluorescent Electronic Ballast	182.89	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0109			96 Watt, High-Output, T8HO Fluorescent Electronic Ballasts (26 01 50 52-0093)		
26 01 50 52-0110	EA		1 Lamp, 96 Watt, Instant Start, High-Output, T8HO Fluorescent Electronic Ballast	135.42	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0111	EA		1 Lamp, 96 Watt, Programmed Start, High-Output, T8HO Fluorescent Electronic Ballast	176.72	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0112	EA		2 Lamp, 96 Watt, Instant Start, High-Output, T8HO Fluorescent Electronic Ballast	141.59	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0113	EA		2 Lamp, 96 Watt, Programmed Start, High-Output, T8HO Fluorescent Electronic Ballast	182.89	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0114			Dimming, T8 Fluorescent Electronic Ballasts (26 01 50 52-0043)		
26 01 50 52-0115			Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballasts (26 01 50 52-0114)		
			Note: Includes 120/277 Volt and high ballast factor.		
26 01 50 52-0116			17 Watt, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballasts (26 01 50 52-0115)		
26 01 50 52-0117	EA		1 Lamp, 17 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	69.54	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0118	EA		2 Lamp, 17 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	75.71	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0119	EA		3 Lamp, 17 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	87.21	37.05
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0120	EA		4 Lamp, 17 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	105.19	43.22
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
26 01 50 52-0121	EA		5 Lamp, 17 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	158.45	49.40
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0122	EA		6 Lamp, 17 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	164.63	55.58
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	16.67	
26 01 50 52-0123			25 Watt, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballasts (26 01 50 52-0115)		
26 01 50 52-0124	EA		1 Lamp, 25 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	69.54	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0125	EA		2 Lamp, 25 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	75.71	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0126	EA		3 Lamp, 25 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	87.21	37.05
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0127	EA		4 Lamp, 25 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	105.19	43.22
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
26 01 50 52-0128	EA		5 Lamp, 25 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	158.45	49.40
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0129	EA		6 Lamp, 25 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	164.63	55.58
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	16.67	
26 01 50 52-0130			28 Watt, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballasts (26 01 50 52-0115)		
26 01 50 52-0131	EA		1 Lamp, 28 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	69.54	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0132	EA		2 Lamp, 28 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	75.71	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0133	EA		3 Lamp, 28 Watt, Instant Start, Load Shed 0-10 V Dimming, T8 Fluorescent Electronic Ballast	87.21	37.05
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 52-0172	EA		6 Lamp, 28 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	157.10	55.58
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	16.67	
26 01 50 52-0173			32 Watt, Step Dimming, T8 Fluorescent Electronic Ballasts (26 01 50 52-0151)		
26 01 50 52-0174	EA		1 Lamp, 32 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	69.54	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0175	EA		2 Lamp, 32 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	75.71	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0176	EA		3 Lamp, 32 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	84.84	37.05
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0177	EA		4 Lamp, 32 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	105.19	43.22
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
26 01 50 52-0178	EA		5 Lamp, 32 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	150.92	49.40
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0179	EA		6 Lamp, 32 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	157.10	55.58
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	16.67	
26 01 50 52-0180			40 Watt, Step Dimming, T8 Fluorescent Electronic Ballasts (26 01 50 52-0151)		
26 01 50 52-0181	EA		1 Lamp, 40 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	69.54	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0182	EA		2 Lamp, 40 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	75.71	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0183	EA		3 Lamp, 40 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	84.84	37.05
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0184	EA		4 Lamp, 40 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	105.19	43.22
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
26 01 50 52-0185	EA		5 Lamp, 40 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	150.92	49.40
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0186	EA		6 Lamp, 40 Watt, Instant Start, Step Dimming, T8 Fluorescent Electronic Ballast.....	157.10	55.58
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	16.67	
26 01 50 52-0187			Dimming To 3%, T8 Fluorescent Electronic Ballasts (26 01 50 52-0114)		
			Note: Includes 120/277 Volt and normal ballast factor.		
26 01 50 52-0188			17 Watt, Dimming To 3%, T8 Fluorescent Electronic Ballasts (26 01 50 52-0187)		
26 01 50 52-0189	EA		1 Lamp, 17 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	167.10	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0190	EA		2 Lamp, 17 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	173.27	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0191	EA		3 Lamp, 17 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	207.01	37.05
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0192	EA		4 Lamp, 17 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	213.18	43.22
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
26 01 50 52-0193			25 Watt, Dimming To 3%, T8 Fluorescent Electronic Ballasts (26 01 50 52-0187)		
26 01 50 52-0194	EA		1 Lamp, 25 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	167.10	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0195	EA		2 Lamp, 25 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	173.27	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0196	EA		3 Lamp, 25 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	207.01	37.05
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0197	EA		4 Lamp, 25 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	213.18	43.22
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
26 01 50 52-0198			28 Watt, Dimming To 3%, T8 Fluorescent Electronic Ballasts (26 01 50 52-0187)		
26 01 50 52-0199	EA		1 Lamp, 28 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	167.10	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0200	EA		2 Lamp, 28 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	173.27	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0201	EA		3 Lamp, 28 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	207.01	37.05
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0202	EA		4 Lamp, 28 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	213.18	43.22
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
26 01 50 52-0203			32 Watt, Dimming To 3%, T8 Fluorescent Electronic Ballasts (26 01 50 52-0187)		
26 01 50 52-0204	EA		1 Lamp, 32 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	167.10	24.70
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0205	EA		2 Lamp, 32 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	173.27	30.87
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0206	EA		3 Lamp, 32 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	207.01	37.05
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0207	EA		4 Lamp, 32 Watt, Program/Rapid Start, Dimming To 3%, T8 Fluorescent Electronic Ballast.....	213.18	43.22
			For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
26 01 50 52-0208			T10 Fluorescent Ballasts (26 01 50 52-0002)		

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT UNIT COST DEMOLITION UNIT COST

26 01 50 52-0209	T10 Fluorescent Electronic Ballasts (26 01 50 52-0208)		
	Note: Includes 120/277 Volt and normal ballast factor.		
26 01 50 52-0210	40 Watt, T10 Fluorescent Electronic Ballasts (26 01 50 52-0209)		
26 01 50 52-0211	EA 1 Lamp, 40 Watt, Program/Rapid Start, T10 Fluorescent Electronic Ballast.....	82.27	24.70
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0212	EA 2 Lamp, 40 Watt, Program/Rapid Start, T10 Fluorescent Electronic Ballast.....	88.44	30.87
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0213	EA 3 Lamp, 40 Watt, Program/Rapid Start, T10 Fluorescent Electronic Ballast.....	108.48	37.05
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0214	T12 Fluorescent Ballasts (26 01 50 52-0002)		
26 01 50 52-0215	T12 Fluorescent Electronic Ballasts (26 01 50 52-0214)		
	Note: Includes 120/277 Volt and normal ballast factor.		
26 01 50 52-0216	25 Watt, T12 Fluorescent Electronic Ballasts (26 01 50 52-0215)		
26 01 50 52-0217	EA 1 Lamp, 25 Watt, Instant Start, T12 Fluorescent Electronic Ballast.....	57.81	24.70
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0218	EA 1 Lamp, 25 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	82.27	24.70
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0219	EA 2 Lamp, 25 Watt, Instant Start, T12 Fluorescent Electronic Ballast.....	63.98	30.87
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0220	EA 2 Lamp, 25 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	88.44	30.87
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0221	EA 3 Lamp, 25 Watt, Instant Start, T12 Fluorescent Electronic Ballast.....	77.99	37.05
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0222	EA 4 Lamp, 25 Watt, Instant Start, T12 Fluorescent Electronic Ballast.....	89.24	43.22
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	12.97	
26 01 50 52-0223	30 Watt, T12 Fluorescent Electronic Ballasts (26 01 50 52-0215)		
26 01 50 52-0224	EA 1 Lamp, 30 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	82.27	24.70
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0225	EA 2 Lamp, 30 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	88.44	30.87
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0226	EA 3 Lamp, 30 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	108.48	37.05
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0227	34 Watt, T12 Fluorescent Electronic Ballasts (26 01 50 52-0215)		
26 01 50 52-0228	EA 1 Lamp, 34 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	82.27	24.70
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0229	EA 2 Lamp, 34 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	88.44	30.87
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0230	EA 3 Lamp, 34 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	108.48	37.05
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0231	40 Watt, T12 Fluorescent Electronic Ballasts (26 01 50 52-0215)		
26 01 50 52-0232	EA 1 Lamp, 40 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	82.27	24.70
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0233	EA 2 Lamp, 40 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	88.44	30.87
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0234	EA 3 Lamp, 40 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	108.48	37.05
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	11.12	
26 01 50 52-0235	96 Watt, T12 Fluorescent Electronic Ballasts (26 01 50 52-0215)		
26 01 50 52-0236	EA 1 Lamp, 96 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	103.44	24.70
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0237	EA 2 Lamp, 96 Watt, Program/Rapid Start, T12 Fluorescent Electronic Ballast.....	117.68	30.87
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0238	High-Output, T12HO Fluorescent Electronic Ballasts (26 01 50 52-0214)		
	Note: Includes 120/277 Volt and normal ballast factor.		
26 01 50 52-0239	48 Watt, High-Output, T12HO Fluorescent Electronic Ballasts (26 01 50 52-0238)		
26 01 50 52-0240	EA 1 Lamp, 48 Watt, Program/Rapid Start, High-Output, T12HO Fluorescent Electronic Ballast.....	135.88	24.70
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0241	EA 2 Lamp, 48 Watt, Program/Rapid Start, High-Output, T12HO Fluorescent Electronic Ballast.....	142.05	30.87
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0242	60 Watt, High-Output, T12HO Fluorescent Electronic Ballasts (26 01 50 52-0238)		
26 01 50 52-0243	EA 1 Lamp, 60 Watt, Program/Rapid Start, High-Output, T12HO Fluorescent Electronic Ballast.....	135.88	24.70
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0244	EA 2 Lamp, 60 Watt, Program/Rapid Start, High-Output, T12HO Fluorescent Electronic Ballast.....	142.05	30.87
	For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 52-0245		72 Watt, High-Output, T12HO Fluorescent Electronic Ballasts (26 01 50 52-0238)		
26 01 50 52-0246	EA	1 Lamp, 72 Watt, Program/Rapid Start, High-Output, T12HO Fluorescent Electronic Ballast	135.88	24.70
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0247	EA	2 Lamp, 72 Watt, Program/Rapid Start, High-Output, T12HO Fluorescent Electronic Ballast	142.05	30.87
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0248		96 Watt, High-Output, T12HO Fluorescent Electronic Ballasts (26 01 50 52-0238)		
26 01 50 52-0249	EA	2 Lamp, 96 Watt, Program/Rapid Start, High-Output, T12HO Fluorescent Electronic Ballast	135.88	24.70
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0250	EA	2 Lamp, 96 Watt, Program/Rapid Start, High-Output, T12HO Fluorescent Electronic Ballast	142.05	30.87
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0251		Emergency Fluorescent Ballasts (26 01 50 52-0002)		
		Note: 120/277 Volt.		
26 01 50 52-0252	EA	350 To 450 Lumens, One Lamp, Code Compliance, Ninety Minute Illumination, Emergency Fluorescent Ballast (Bodine B100)	212.11	24.70
		For Factory Installation In New Fixtures, Deduct	-49.40	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0253	EA	600 To 700 Lumens, Two Lamp, Ninety Minute Illumination, Emergency Fluorescent Ballast (Bodine B60)	352.29	30.87
		For Factory Installation In New Fixtures, Deduct	-51.87	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0254	EA	1,100 To 1,400 Lumens, One Or Two Lamp, Ninety Minute Illumination, Emergency Fluorescent Ballast (Bodine B50)	439.13	30.87
		For Factory Installation In New Fixtures, Deduct	-51.87	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0255	EA	600 To 700 Lumens, One Or Two Lamp, Two Hour Illumination, Emergency Fluorescent Ballast (Bodine B70A)	323.26	30.87
		For Factory Installation In New Fixtures, Deduct	-51.87	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0256	EA	2,700 To 3,400 Lumens, Two Or Three Lamp, Ninety Minute Illumination, Emergency Fluorescent Ballast (Bodine B33)	1,537.17	37.05
		For Factory Installation In New Fixtures, Deduct	-54.34	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	16.30	
26 01 50 52-0257	EA	225 To 450 Lumens, One Lamp, Four Hour Illumination, Emergency Fluorescent Ballast (Bodine B54)	445.80	24.70
		For Factory Installation In New Fixtures, Deduct	-49.40	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0258	EA	325 To 1,000 Lumens, One Or Two Lamp, Ninety Minute Illumination, Emergency Compact Fluorescent Ballast (Bodine B84CG)	750.61	30.87
		For Factory Installation In New Fixtures, Deduct	-51.87	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0259	EA	300 To 750 Lumens, One Or Two Lamp, Ninety Minute Illumination, Emergency Compact Fluorescent Ballast (Bodine B94CG)	410.53	30.87
		For Factory Installation In New Fixtures, Deduct	-51.87	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0260	EA	200 To 625 Lumens, One Lamp, Ninety Minute Illumination, Damp Location, Emergency Compact Fluorescent Ballast (Bodine B413)	562.18	24.70
		For Factory Installation In New Fixtures, Deduct	-49.40	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0261	EA	300 To 650 Lumens, One Lamp, Damp Location, Ninety Minute Illumination, Emergency Compact Fluorescent Ballast (Bodine B463)	434.71	24.70
		For Factory Installation In New Fixtures, Deduct	-49.40	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0262	EA	450 To 950 Lumens, One Or Two Lamp, Ninety Minute Illumination, Damp Location, Emergency Compact Fluorescent Ballast (Bodine B426)	491.43	30.87
		For Factory Installation In New Fixtures, Deduct	-51.87	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0263	EA	1,100 To 1,400 Lumens, One Or Two Lamp, Ninety Minute Illumination, Damp Location, Emergency Fluorescent Ballast (Bodine BDL500)	532.28	30.87
		For Factory Installation In New Fixtures, Deduct	-51.87	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0264	EA	600 To 700 Lumens, Two Lamp, Damp Location, Emergency Fluorescent Ballast (Bodine BDL600)	447.08	30.87
		For Factory Installation In New Fixtures, Deduct	-51.87	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0265	EA	600 To 700 Lumens, One Lamp, Two Hour Illumination, Emergency Fluorescent Ballast (Bodine BDL700)	454.27	24.70
		For Factory Installation In New Fixtures, Deduct	-49.40	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0266	EA	500 To 600 Lumens, One Lamp, Damp Location, Ninety Minute Illumination, Emergency Fluorescent Ballast (Bodine BDL900)	395.21	24.70
		For Factory Installation In New Fixtures, Deduct	-49.40	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0267	EA	300 To 750 Lumens, One Or Two Lamp, Damp Location, Ninety Minute Illumination, Emergency Compact Fluorescent Ballast (Bodine BDL94C)	410.53	30.87
		For Factory Installation In New Fixtures, Deduct	-51.87	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0268	EA	450 Lumens, One Lamp, Low Profile, Ninety Minute Illumination, Emergency Fluorescent Ballast (Bodine LP400)	401.57	24.70
		For Factory Installation In New Fixtures, Deduct	-49.40	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0269	EA	1,100 To 1,400 Lumens, One Or Two Lamp, Self Testing, Ninety Minute Illumination, Emergency Fluorescent Ballast (Bodine B50ST)	738.73	30.87
		For Factory Installation In New Fixtures, Deduct	-51.87	
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 52-0270 EA 1,800 To 3,500 Lumens, One Or Two Lamp, Self Testing, Ninety Minute Illumination, Emergency Fluorescent Ballast (Bodine B30ST)	925.05	30.87
For Factory Installation In New Fixtures, Deduct	-51.87	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0271 EA 1,450 To 3,500 Lumens, One Or Two Lamp, Remote Control Testing, Ninety Minute Illumination, Emergency Fluorescent Ballast (Bodine B30RCT)	1,735.52	30.87
For Factory Installation In New Fixtures, Deduct	-51.87	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0272 EA 1,100 To 1,400 Lumens, One Or Two Lamp, Remote Control Testing, Ninety Minute Illumination, Emergency Fluorescent Ballast (Bodine B50RCT)	1,204.00	30.87
For Factory Installation In New Fixtures, Deduct	-51.87	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0273 EA 1,100 To 3,100 Lumens, One Or Two Lamp, Central Battery, Emergency Fluorescent Ballast With Voltage Sensing Circuit (Bodine CB90-48)	609.73	30.87
For Factory Installation In New Fixtures, Deduct	-51.87	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	15.56	
26 01 50 52-0274 EA 1,050 To 3,200 Lumens, One Lamp, Interim Lighting For Generator Backup, Five Minute Illumination, Emergency Fluorescent Ballast (Bodine GEN1)	792.25	24.70
For Factory Installation In New Fixtures, Deduct	-49.40	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0275 EA 250 Watt, Self-Diagnostic, Ninety Minute Illumination, Fluorescent Emergency Lighting Inverter (Bodine ELI-250-SD)	4,455.21	30.87
For Factory Installation In New Fixtures, Deduct	-49.40	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0276 LED Emergency Ballasts (26 01 50 52-0001)		
26 01 50 52-0277 EA Up To 520 Lumens, Ninety Minute Illumination, 120-277 Volt, 4 Watt Output, Emergency LED Driver (Bodine BSL4L)	144.58	24.70
For Factory Installation In New Fixtures, Deduct	-49.40	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0278 EA Up To 780 Lumens, Ninety Minute Illumination, 120-277 Volt, 6 Watt Output, Emergency LED Driver (Bodine BSL6LST)	215.18	24.70
For Factory Installation In New Fixtures, Deduct	-49.40	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0279 EA Up To 975 Lumens, Ninety Minute Illumination, 120-277 Volt, 7.5 Watt Output, Emergency LED Driver (Bodine BSL17C)	257.52	24.70
For Factory Installation In New Fixtures, Deduct	-49.40	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0280 EA Up To 1,300 Lumens, Ninety Minute Illumination, 120-277 Volt, 10 Watt Output, Emergency LED Driver (Bodine BSL310)	287.75	24.70
For Factory Installation In New Fixtures, Deduct	-49.40	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0281 EA Up To 2,200 Lumens, Ninety Minute Illumination, 120-277 Volt, 18 Watt Output, Emergency LED Driver (Bodine BSL718)	295.39	24.70
For Factory Installation In New Fixtures, Deduct	-49.40	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0282 EA Up To 2,600 Lumens, Ninety Minute Illumination, 120-277 Volt, 20 Watt Output, Emergency LED Driver (Bodine BSL20LV)	383.88	24.70
For Factory Installation In New Fixtures, Deduct	-49.40	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0283 EA Up To 2,300 Lumens, Ninety Minute Illumination, 120-277 Volt, 23 Watt LED Emergency Battery Backup (LiteTronics EB23UQ)	454.87	24.70
For Factory Installation In New Fixtures, Deduct	-49.40	
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	14.82	
26 01 50 52-0284 Compact Fluorescent Ballasts (26 01 50 52-0001)		
26 01 50 52-0285 Compact Fluorescent Electronic Ballasts (26 01 50 52-0284)		
Note: Includes 120/277 Volt and normal ballast factor.		
26 01 50 52-0286 18 Watt, Compact Fluorescent Electronic Ballasts (26 01 50 52-0285)		
26 01 50 52-0287 EA 1 Lamp, 18 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast	125.83	24.70
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0288 EA 2 Lamp, 18 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast	132.00	30.87
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0289 26 Watt, Compact Fluorescent Electronic Ballasts (26 01 50 52-0285)		
26 01 50 52-0290 EA 1 Lamp, 26 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast	125.83	24.70
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0291 EA 2 Lamp, 26 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast	132.00	30.87
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0292 32 Watt, Compact Fluorescent Electronic Ballasts (26 01 50 52-0285)		
26 01 50 52-0293 EA 1 Lamp, 32 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast	156.44	24.70
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	7.41	
26 01 50 52-0294 EA 2 Lamp, 32 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast	162.61	30.87
For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	9.26	
26 01 50 52-0295 40 Watt, Compact Fluorescent Electronic Ballasts (26 01 50 52-0285)		



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 52-0296 EA 1 Lamp, 40 Watt, Instant Start, Compact Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	122.17 7.41	24.70
26 01 50 52-0297 EA 1 Lamp, 40 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	156.44 7.41	24.70
26 01 50 52-0298 EA 2 Lamp, 40 Watt, Instant Start, Compact Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	231.18 9.26	30.87
26 01 50 52-0299 EA 2 Lamp, 40 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	162.61 9.26	30.87
26 01 50 52-0300 EA 3 Lamp, 40 Watt, Instant Start, Compact Fluorescent Electronic Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	273.18 11.12	37.05
26 01 50 52-0301 42 Watt, Compact Fluorescent Electronic Ballasts (26 01 50 52-0285)		
26 01 50 52-0302 EA 1 Lamp, 42 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	156.44 7.41	24.70
26 01 50 52-0303 EA 2 Lamp, 42 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	162.61 9.26	30.87
26 01 50 52-0304 55 Watt, Compact Fluorescent Electronic Ballasts (26 01 50 52-0285)		
26 01 50 52-0305 EA 1 Lamp, 55 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	156.44 7.41	24.70
26 01 50 52-0306 EA 2 Lamp, 55 Watt, Program/Rapid Start, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	162.61 9.26	30.87
26 01 50 52-0307 Dimming, Compact Fluorescent Electronic Ballasts (26 01 50 52-0284)		
26 01 50 52-0308 Dimming To 5%, Compact Fluorescent Electronic Ballasts (26 01 50 52-0307) Note: Includes 120/277 Volt and normal ballast factor.		
26 01 50 52-0309 18 Watt, Dimming To 5%, Compact Fluorescent Electronic Ballasts (26 01 50 52-0308)		
26 01 50 52-0310 EA 1 Lamp, 18 Watt, Program/Rapid Start, Dimming To 5%, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	234.72 7.41	24.70
26 01 50 52-0311 EA 2 Lamp, 18 Watt, Program/Rapid Start, Dimming To 5%, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	240.89 9.26	30.87
26 01 50 52-0312 26 Watt, Dimming To 5%, Compact Fluorescent Electronic Ballasts (26 01 50 52-0308)		
26 01 50 52-0313 EA 1 Lamp, 26 Watt, Program/Rapid Start, Dimming To 5%, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	234.72 7.41	24.70
26 01 50 52-0314 EA 2 Lamp, 26 Watt, Program/Rapid Start, Dimming To 5%, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	240.89 9.26	30.87
26 01 50 52-0315 32 Watt, Dimming To 5%, Compact Fluorescent Electronic Ballasts (26 01 50 52-0308)		
26 01 50 52-0316 EA 1 Lamp, 32 Watt, Program/Rapid Start, Dimming To 5%, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	234.72 7.41	24.70
26 01 50 52-0317 EA 2 Lamp, 32 Watt, Program/Rapid Start, Dimming To 5%, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	257.79 9.26	30.87
26 01 50 52-0318 40 Watt, Dimming To 5%, Compact Fluorescent Electronic Ballasts (26 01 50 52-0308)		
26 01 50 52-0319 EA 2 Lamp, 40 Watt, Program/Rapid Start, Dimming To 5%, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	257.79 9.26	30.87
26 01 50 52-0320 42 Watt, Dimming To 5%, Compact Fluorescent Electronic Ballasts (26 01 50 52-0308)		
26 01 50 52-0321 EA 1 Lamp, 42 Watt, Program/Rapid Start, Dimming To 5%, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	234.72 7.41	24.70
26 01 50 52-0322 EA 2 Lamp, 42 Watt, Program/Rapid Start, Dimming To 5%, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	257.79 9.26	30.87
26 01 50 52-0323 55 Watt, Dimming To 5%, Compact Fluorescent Electronic Ballasts (26 01 50 52-0308)		
26 01 50 52-0324 EA 1 Lamp, 55 Watt, Program/Rapid Start, Dimming To 5%, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	376.35 7.41	24.70
26 01 50 52-0325 EA 2 Lamp, 55 Watt, Program/Rapid Start, Dimming To 5%, Compact Fluorescent Electronic Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	422.27 9.26	30.87
26 01 50 52-0326 High Intensity Discharge (HID) Ballasts (26 01 50 52-0001)		
26 01 50 52-0327 Magnetic High Intensity Discharge (HID) Ballasts (26 01 50 52-0326)		
26 01 50 52-0328 Core And Coil High Intensity Discharge (HID) Ballasts (26 01 50 52-0327)		
26 01 50 52-0329 Metal Halide, Core And Coil High Intensity Discharge (HID) Ballasts (26 01 50 52-0328)		

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 52-0330 EA 1 Lamp, 100 Watt Metal Halide, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	167.55 12.97	30.87
26 01 50 52-0331 EA 1 Lamp, 250 Watt Metal Halide, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	171.57 12.97	30.87
26 01 50 52-0332 EA 1 Lamp, 250 Watt Metal Halide, 480 Volt, Core And Coil High Intensity Discharge (HID) Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	171.57 12.97	30.87
26 01 50 52-0333 EA 1 Lamp, 400 Watt Metal Halide, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	160.12 12.97	30.87
26 01 50 52-0334 EA 1 Lamp, 400 Watt Metal Halide, 480 Volt, Core And Coil High Intensity Discharge (HID) Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	160.12 12.97	30.87
26 01 50 52-0335 EA 1 Lamp, 1,000 Watt Metal Halide, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	236.83 12.97	30.87
26 01 50 52-0336 EA 1 Lamp, 1,000 Watt Metal Halide, 480 Volt, Core And Coil High Intensity Discharge (HID) Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	236.83 12.97	30.87
26 01 50 52-0337 EA 1 Lamp, 1,500 Watt Metal Halide, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	304.40 12.97	30.87
26 01 50 52-0338 EA 1 Lamp, 1,500 Watt Metal Halide, 480 Volt, Core And Coil High Intensity Discharge (HID) Ballast <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	338.86 12.97	30.87

26 01 50 52-0339 High Pressure Sodium, Core And Coil High Intensity Discharge (HID) Ballasts (26 01 50 52-0328)

26 01 50 52-0340 EA 1 Lamp, 50 Watt High Pressure Sodium, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	151.66 12.97	30.87
26 01 50 52-0341 EA 1 Lamp, 70 Watt High Pressure Sodium, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	160.65 12.97	30.87
26 01 50 52-0342 EA 1 Lamp, 100 Watt High Pressure Sodium, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	156.77 12.97	30.87
26 01 50 52-0343 EA 1 Lamp, 150 Watt High Pressure Sodium, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	183.79 12.97	30.87
26 01 50 52-0344 EA 1 Lamp, 150 Watt High Pressure Sodium, 480 Volt, Core And Coil High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	179.93 12.97	30.87
26 01 50 52-0345 EA 1 Lamp, 250 Watt High Pressure Sodium, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	205.00 12.97	30.87
26 01 50 52-0346 EA 1 Lamp, 250 Watt High Pressure Sodium, 480 Volt, Core And Coil High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	205.00 12.97	30.87
26 01 50 52-0347 EA 1 Lamp, 400 Watt High Pressure Sodium, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	246.70 12.97	30.87
26 01 50 52-0348 EA 1 Lamp, 400 Watt High Pressure Sodium, 480 Volt, Core And Coil High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	246.70 12.97	30.87
26 01 50 52-0349 EA 1 Lamp, 1,000 Watt High Pressure Sodium, 120/277 Volt, Core And Coil High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	393.03 12.97	30.87
26 01 50 52-0350 EA 1 Lamp, 1,000 Watt High Pressure Sodium, 480 Volt, Core And Coil High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	393.03 12.97	30.87

26 01 50 52-0351 Mounting Brackets For Core And Coil High Intensity Discharge (HID) Ballasts (26 01 50 52-0328)

26 01 50 52-0352 EA Single Mounting Bracket For Core And Coil Type..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	18.38 3.71	
26 01 50 52-0353 EA Double Mounting Bracket For Core And Coil Type..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	30.65 5.56	

26 01 50 52-0354 F-Can High Intensity Discharge (HID) Ballasts (26 01 50 52-0327)
26 01 50 52-0355 Metal Halide, F-Can High Intensity Discharge (HID) Ballasts (26 01 50 52-0354)

26 01 50 52-0356 EA 1 Lamp, 70 Watt Metal Halide, 120/277 Volt, F-Can High Intensity Discharge (HID) Ballast..... <i>For Pulse Start Ballast, Add</i> <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	211.83 16.86 12.97	30.87
26 01 50 52-0357 EA 1 Lamp, 100 Watt Metal Halide, 120/277 Volt, F-Can High Intensity Discharge (HID) Ballast..... <i>For Pulse Start Ballast, Add</i> <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	222.98 17.98 12.97	30.87
26 01 50 52-0358 EA 1 Lamp, 175 Watt Metal Halide, 120/277 Volt, F-Can High Intensity Discharge (HID) Ballast..... <i>For Pulse Start Ballast, Add</i> <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	203.38 16.02 12.97	30.87
26 01 50 52-0359 EA 1 Lamp, 250 Watt Metal Halide, 120/277 Volt, F-Can High Intensity Discharge (HID) Ballast..... <i>For Pulse Start Ballast, Add</i> <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	235.59 19.24 12.97	30.87
26 01 50 52-0360 EA 1 Lamp, 400 Watt Metal Halide, 120/277 Volt, F-Can High Intensity Discharge (HID) Ballast..... <i>For Pulse Start Ballast, Add</i> <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	325.84 28.26 12.97	30.87

26 01 50 52-0361 High Pressure Sodium, F-Can High Intensity Discharge (HID) Ballasts (26 01 50 52-0354)

26 01 50 52-0362 EA 1 Lamp, 70 Watt High Pressure Sodium, 120/277 Volt, F-Can High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	254.09 12.97	30.87
26 01 50 52-0363 EA 1 Lamp, 100 Watt High Pressure Sodium, 120/277 Volt, F-Can High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	271.48 12.97	30.87

26 01 50 52-0364 Postline High Intensity Discharge (HID) Ballasts (26 01 50 52-0327)



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 52-0365		Metal Halide, Postline High Intensity Discharge (HID) Ballasts (26 01 50 52-0364)		
26 01 50 52-0366	EA	1 Lamp, 50 Watt Metal Halide, 120 Volt, Postline High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	420.75 12.97	30.87
26 01 50 52-0367		High Pressure Sodium, Postline High Intensity Discharge (HID) Ballasts (26 01 50 52-0364)		
26 01 50 52-0368	EA	1 Lamp, 70 Watt High Pressure Sodium, 120 Volt, Postline High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	646.44 12.93	30.80
26 01 50 52-0369	EA	1 Lamp, 100 Watt High Pressure Sodium, 120 Volt, Postline High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	720.55 12.93	30.80
26 01 50 52-0370	EA	1 Lamp, 150 Watt High Pressure Sodium, 120 Volt, Postline High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	694.91 12.93	30.80
26 01 50 52-0371		Indoor Enclosed High Intensity Discharge (HID) Ballasts (26 01 50 52-0372)		
26 01 50 52-0372		Metal Halide, Indoor Enclosed High Intensity Discharge (HID) Ballasts (26 01 50 52-0371)		
26 01 50 52-0373	EA	1 Lamp, 175 Watt Metal Halide, 120/277 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	517.29 12.97	30.87
26 01 50 52-0374	EA	1 Lamp, 250 Watt Metal Halide, 120/277 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	586.68 12.97	30.87
26 01 50 52-0375	EA	1 Lamp, 400 Watt Metal Halide, 120/277 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	773.84 12.97	30.87
26 01 50 52-0376	EA	1 Lamp, 400 Watt Metal Halide, 480 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	769.81 12.97	30.87
26 01 50 52-0377	EA	2 Lamp, 400 Watt Metal Halide, 120/277 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	1,077.45 13.71	33.35
26 01 50 52-0378	EA	2 Lamp, 400 Watt Metal Halide, 480 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	1,077.45 13.71	33.35
26 01 50 52-0379	EA	1 Lamp, 1,000 Watt Metal Halide, 120/277 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	742.27 12.97	30.87
26 01 50 52-0380	EA	1 Lamp, 1,000 Watt Metal Halide, 480 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	872.71 12.97	30.87
26 01 50 52-0381		High Pressure Sodium, Indoor Enclosed High Intensity Discharge (HID) Ballasts (26 01 50 52-0371)		
26 01 50 52-0382	EA	1 Lamp, 400 Watt High Pressure Sodium, 120/277 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	962.40 12.97	30.87
26 01 50 52-0383	EA	1 Lamp, 400 Watt High Pressure Sodium, 480 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	916.43 12.97	30.87
26 01 50 52-0384	EA	1 Lamp, 1,000 Watt High Pressure Sodium, 120/277 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	1,177.06 12.97	30.87
26 01 50 52-0385	EA	1 Lamp, 1,000 Watt High Pressure Sodium, 480 Volt, Indoor Enclosed High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	1,177.06 12.97	30.87
26 01 50 52-0386		Outdoor Weatherproof High Intensity Discharge (HID) Ballasts (26 01 50 52-0327)		
26 01 50 52-0387		Metal Halide, Outdoor Weatherproof High Intensity Discharge (HID) Ballasts (26 01 50 52-0386)		
26 01 50 52-0388	EA	1 Lamp, 175 Watt Metal Halide, 120/277 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	580.88 12.97	30.87
26 01 50 52-0389	EA	1 Lamp, 250 Watt Metal Halide, 120/277 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	627.20 12.97	30.87
26 01 50 52-0390	EA	1 Lamp, 400 Watt Metal Halide, 120/277 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	622.64 12.97	30.87
26 01 50 52-0391	EA	1 Lamp, 400 Watt Metal Halide, 480 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	653.67 12.97	30.87
26 01 50 52-0392	EA	2 Lamp, 400 Watt Metal Halide, 120/277 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	1,036.98 13.71	33.35
26 01 50 52-0393	EA	2 Lamp, 400 Watt Metal Halide, 480 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	1,273.94 13.71	33.35
26 01 50 52-0394	EA	1 Lamp, 1,000 Watt Metal Halide, 120/277 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	967.79 12.97	30.87
26 01 50 52-0395	EA	1 Lamp, 1,000 Watt Metal Halide, 480 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	881.39 12.97	30.87
26 01 50 52-0396		High Pressure Sodium, Outdoor Weatherproof High Intensity Discharge (HID) Ballasts (26 01 50 52-0386)		
26 01 50 52-0397	EA	1 Lamp, 400 Watt High Pressure Sodium, 120/277 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	748.95 12.97	30.87
26 01 50 52-0398	EA	1 Lamp, 400 Watt High Pressure Sodium, 480 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	807.37 12.97	30.87
26 01 50 52-0399	EA	1 Lamp, 1,000 Watt High Pressure Sodium, 120/277 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast..... <i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	1,204.02 12.97	30.87

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 52-0400	EA	1 Lamp, 1,000 Watt High Pressure Sodium, 480 Volt, Outdoor Weatherproof High Intensity Discharge (HID) Ballast.....	1,036.43	30.87
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	12.97	
26 01 50 52-0401		Electronic High Intensity Discharge (HID) Ballasts (26 01 50 52-0326)		
26 01 50 52-0402		Electronic Low Frequency High Intensity Discharge (HID) Ballasts (26 01 50 52-0401)		
26 01 50 52-0403	EA	1 Lamp, 70 Watt Metal Halide, 120/277 Volt, Electronic Low Frequency High Intensity Discharge (HID) Ballast.....	234.04	30.87
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	12.97	
26 01 50 52-0404	EA	1 Lamp, 100 Watt Metal Halide, 120/277 Volt, Electronic Low Frequency High Intensity Discharge (HID) Ballast.....	234.04	30.87
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	12.97	
26 01 50 52-0405	EA	1 Lamp, 150 Watt Metal Halide, 120/277 Volt, Electronic Low Frequency High Intensity Discharge (HID) Ballast.....	263.32	30.87
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	12.97	
26 01 50 52-0406	EA	1 Lamp, 250 Watt Metal Halide, 120/277 Volt, Electronic Low Frequency High Intensity Discharge (HID) Ballast.....	673.64	30.87
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	12.97	
26 01 50 52-0407	EA	1 Lamp, 300 Watt Metal Halide, 120/277 Volt, Electronic Low Frequency High Intensity Discharge (HID) Ballast.....	673.64	30.87
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	12.97	
26 01 50 52-0408	EA	1 Lamp, 320 Watt Metal Halide, 120/277 Volt, Electronic Low Frequency High Intensity Discharge (HID) Ballast.....	673.64	30.87
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	12.97	
26 01 50 52-0409	EA	1 Lamp, 350 Watt Metal Halide, 120/277 Volt, Electronic Low Frequency High Intensity Discharge (HID) Ballast.....	673.64	30.87
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	12.97	
26 01 50 52-0410	EA	1 Lamp, 400 Watt Metal Halide, 120/277 Volt, Electronic Low Frequency High Intensity Discharge (HID) Ballast.....	673.64	30.87
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	12.97	
26 01 50 52-0411		Owner Supplied Ballasts (26 01 50 52-0001)		
26 01 50 52-0412	EA	Install Owner Supplied, 1 Lamp Fluorescent Ballast.....	24.70	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	7.41	
26 01 50 52-0413	EA	Install Owner Supplied, 2 Lamp Fluorescent Ballast.....	30.87	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	9.26	
26 01 50 52-0414	EA	Install Owner Supplied, 3 Lamp Fluorescent Ballast.....	35.82	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	10.75	
26 01 50 52-0415	EA	Install Owner Supplied, 4 Lamp Fluorescent Ballast.....	38.28	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	11.48	
26 01 50 52-0416	EA	Install Owner Supplied, 1 Lamp High Intensity Discharge (HID) Ballast.....	43.22	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	12.97	
26 01 50 52-0417	EA	Install Owner Supplied, 2 Lamp High Intensity Discharge (HID) Ballast.....	45.70	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	13.71	
26 01 50 53		Lens and Accessory Replacement (26 01 50)		
26 01 50 53-0001		Lens and Accessory Replacement (26 01 50 53)		
26 01 50 53-0002	EA	Removal And Replacement Of Parabolic Aluminum Louver.....	84.69	
26 01 50 53-0003	EA	Removal And Replacement Of Visor For Fixtures.....	189.19	
26 01 50 53-0004	EA	Removal And Replacement Of Globe On Pole.....	211.92	
26 01 50 53-0005	EA	Removal And Replacement Of Lenses For Flat Top Pole Fixtures.....	90.15	
26 01 50 53-0006	EA	Removal And Replacement Of 1' x 4' Diffuser With 0.125" Thick Prismatic Acrylic Diffuser.....	31.09	
26 01 50 53-0007	EA	Removal And Replacement Of 2' x 2' Diffuser With 0.125" Thick Prismatic Acrylic Diffuser.....	32.13	
26 01 50 53-0008	EA	Removal And Replacement Of 2' x 4' Diffuser With 0.125" Thick Prismatic Acrylic Diffuser.....	36.63	
26 01 50 53-0009	EA	Removal And Replacement Of Slide-On Lampholder.....	13.95	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	3.70	
26 01 50 53-0010	EA	Removal And Replacement Of Screw Mount Lampholder.....	14.11	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	3.70	
26 01 50 53-0011	EA	Removal And Replacement Of Medium Bi-Pin Lampholder.....	15.48	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	3.70	
26 01 50 53-0012	EA	Removal And Replacement Of Fixed High Output Lampholder, Recessed, Double Contact Double Pedestal Type.....	17.59	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	3.70	
26 01 50 53-0013	EA	Removal And Replacement Of Plunger High Output Lampholder, Recessed, Double Contact Double Pedestal Type.....	18.97	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	3.70	
26 01 50 53-0014	EA	Removal And Replacement Of Compact Twin-Tube Lampholder, Snap-In.....	15.27	
		<i>For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add</i>	3.70	
26 01 50 53-0015	EA	Removal And Replacement Of Exterior Light Globes.....	60.92	
26 01 50 54		Light Fixture Driver Replacement (26 01 50)		
26 01 50 54-0001		Factory Replacement Of Light Fixture Driver (26 01 50 54)		
26 01 50 54-0002	EA	Factory Replacement Of Existing Light Fixture Transformers To 480 Volt.....	1,299.71	
		Note: Includes shipping to manufacture, factory re-work, parts, return shipping.		
26 01 50 71		Historic Lighting Restoration (26 01 50)		
26 01 50 71-0001		Historic Lighting Restoration (26 01 50 71)		
26 01 50 71-0002	LS	Remove, Restore, And Reinstall Historic Decorative Light Fixtures.....	27,400.00	
		Note: Remove, Restore, and Reinstall (9) Original Decorative Light fixtures per the "Secretary of the Interior's Standards for Rehabilitation" published in the most current edition of the United States National Park Service in "The Secretary of the Interior's Standards for the Treatment of Historic Properties." Include one (1) mock up, Re-sculpting of missing ornamental woodwork, cleaning, refinishing exterior woodwork, installing new wax paper finish on two lights and using salvaged light paper to repair (3) additional lights including faux finishing to match the original distressed paper patina finish, and re-lamp with new LED bulbs.		



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST

26 01 50 81 Luminaire Replacement (26 01 50)

26 01 50 81-0001	Retrofit Lighting Fixtures	(26 01 50 81)	
26 01 50 81-0002	LED Lighting Retrofits For Existing Fixtures	(26 01 50 81-0001)	
26 01 50 81-0003	LED Lighting Retrofits For Existing Downlight Fixtures (GreenCreative)	(26 01 50 81-0002)	
Note: Includes removing existing lamps and disconnecting existing ballast. Includes installing adaptor frame, LED light panel, dimming driver and trim. Excludes recycling or disposal of lamps and ballasts. See CSI section 02 84 16 00-0003 for ballast recycling.			
26 01 50 81-0004	EA 7" Round Downlight, 15 Watt, 2700K CCT, LED Retrofit (GreenCreative 15SMPR7DIM/927)		97.82
26 01 50 81-0005	EA 7" Round Downlight, 15 Watt, 3000K CCT, LED Retrofit (GreenCreative 15SMPR7DIM/930)		97.82
26 01 50 81-0006	EA 7" Round Downlight, 15 Watt, 4000K CCT, LED Retrofit (GreenCreative 15SMPR7DIM/940)		97.82
26 01 50 81-0007	EA 4" Diameter, 8.5 Watt, 2700K CCT, THINFIT LED Downlight, (GreenCreative 8.5DLNC4DIM/827)		82.90
26 01 50 81-0008	EA 4" Diameter, 8.5 Watt, 3000K CCT, THINFIT LED Downlight, (GreenCreative 8.5DLNC4DIM/830)		82.90
26 01 50 81-0009	EA 4" Diameter, 8.5 Watt, 4000K CCT, THINFIT LED Downlight, (GreenCreative 8.5DLNC4DIM/840)		82.90
26 01 50 81-0010	EA 6" Diameter, 11.6 Watt, 2700K CCT, THINFIT LED Downlight, (GreenCreative 11.6DLNC6DIM/827)		89.18
26 01 50 81-0011	EA 6" Diameter, 11.6 Watt, 3000K CCT, THINFIT LED Downlight, (GreenCreative 11.6DLNC6DIM/830)		89.18
26 01 50 81-0012	EA 6" Diameter, 11.6 Watt, 4000K CCT, THINFIT LED Downlight, (GreenCreative 11.6DLNC6DIM/840)		89.18

26 01 50 81-0013 LED Lighting Retrofits For Existing Site Fixtures (Daylight Technology) (26 01 50 81-0002)

Note: Includes removing existing lamps and disconnecting existing ballast. Includes installing adaptor frame, LED light panel, dimming driver and trim. Excludes recycling or disposal of lamps and ballasts. See CSI section 02 84 16 00-0003 for ballast recycling.			
26 01 50 81-0014	EA 2,300 Lumens, 23 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-20w)		269.26
26 01 50 81-0015	EA 3,300 Lumens, 33 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-30w)		278.69
26 01 50 81-0016	EA 4,400 Lumens, 44 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-40w)		288.12
26 01 50 81-0017	EA 5,400 Lumens, 54 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-50w)		300.00
26 01 50 81-0018	EA 6,500 Lumens, 65 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-60w)		327.50
26 01 50 81-0019	EA 7,600 Lumens, 75 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-70w)		339.40
26 01 50 81-0020	EA 8,600 Lumens, 86 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-80w)		365.32
26 01 50 81-0021	EA 9,600 Lumens, 96 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-90w)		374.75
26 01 50 81-0022	EA 10,700 Lumens, 107 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-100w)		386.64
26 01 50 81-0023	EA 11,700 Lumens, 117 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-110w)		403.92
26 01 50 81-0024	EA 12,800 Lumens, 128 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-120w)		422.89
26 01 50 81-0025	EA 13,800 Lumens, 138 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-130w)		440.96
26 01 50 81-0026	EA 14,900 Lumens, 149 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-140w)		450.38
26 01 50 81-0027	EA 16,100 Lumens, 161 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-150w)		466.10
26 01 50 81-0028	EA 17,200 Lumens, 172 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-160w)		485.50
26 01 50 81-0029	EA 18,200 Lumens, 182 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-170w)		505.14
26 01 50 81-0030	EA 19,300 Lumens, 193 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-180w)		534.99
26 01 50 81-0031	EA 20,300 Lumens, 203 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-190w)		548.35
26 01 50 81-0032	EA 21,400 Lumens, 214 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-200w)		572.02
26 01 50 81-0033	EA 22,400 Lumens, 224 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-210w)		602.66
26 01 50 81-0034	EA 23,500 Lumens, 235 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-220w)		618.37
26 01 50 81-0035	EA 24,500 Lumens, 245 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-230w)		656.62
26 01 50 81-0036	EA 25,600 Lumens, 256 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-240w)		691.19
26 01 50 81-0037	EA 26,600 Lumens, 266 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-250w)		715.66
26 01 50 81-0038	EA 27,700 Lumens, 277 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-260w)		749.44
26 01 50 81-0039	EA 28,700 Lumens, 287 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-270w)		815.53
26 01 50 81-0040	EA 29,800 Lumens, 298 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-280w)		823.39
26 01 50 81-0041	EA 31,900 Lumens, 319 Watt, LED Site Retrofit Plate (Daylight Technology DL-S-300w)		844.37

26 01 50 81-0042 LED Lighting Retrofits For Existing Fixtures (Optilumen) (26 01 50 81-0002)

Note: Includes removing existing lamps and disconnecting existing ballast. Includes installing adaptor frame, LED light panel, dimming driver and trim. Excludes recycling or disposal of lamps and ballasts. See CSI section 02 84 16 00-0003 for ballast recycling.			
26 01 50 81-0043	EA 20 Watt, 1' x 42", 3500L CCT, LED Retrofit Kit (Optilumen RKT1418M-35)		119.72
Note: Fits 1' x 4' Troffer/Strip			
26 01 50 81-0044	EA 20 Watt, 1' x 42", 4000L CCT, LED Retrofit Kit (Optilumen RKT1418M-40)		119.72
Note: Fits 1' x 4' Troffer/Strip			
26 01 50 81-0045	EA 20 Watt, 1' x 42", 5000L CCT, LED Retrofit Kit (Optilumen RKT1418M-50)		119.72
Note: Fits 1' x 4' Troffer/Strip			
26 01 50 81-0046	EA 30 Watt, 2' x 42", 3500L CCT, LED Retrofit Kit (Optilumen RKT2415M-35)		123.65
Note: Fits 2' x 4' Troffer/Strip			
26 01 50 81-0047	EA 2' x 42", 30 Watt, 4000K CCT, LED Retrofit Kit (Optilumen RKT2415M-40)		123.65
Note: Fits 2' x 4' Troffer/Strip			
26 01 50 81-0048	EA 2' x 42", 30 Watt, 5000K CCT, LED Retrofit Kit (Optilumen RKT2415M-50)		123.65
Note: Fits 2' x 4' Troffer/Strip			
26 01 50 81-0049	EA 2' x 42", 40 Watt, 3500K CCT, LED Retrofit Kit (Optilumen RKT2418M-35)		131.51
Note: Fits 2' x 4' Troffer/Strip			
26 01 50 81-0050	EA 2' x 42", 40 Watt, 4000K CCT, LED Retrofit Kit (Optilumen RKT2418M-40)		131.51
Note: Fits 2' x 4' Troffer/Strip			
26 01 50 81-0051	EA 2' x 42", 40 Watt, 5000K CCT, LED Retrofit Kit (Optilumen RKT2418M-50)		131.51
Note: Fits 2' x 4' Troffer/Strip			
26 01 50 81-0052	EA 3' x 42", 30 Watt, 3500K CCT, LED Retrofit Kit (Optilumen RKT3415M-35)		123.65
Note: Fits 2' x 4' Troffer/Strip			

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 81-0053	EA	3 x 42", 30 Watt, 4000K CCT, LED Retrofit Kit (Optilumen RKT3415M-40) Note: Fits 2' x 4' Troffer/Strip	123.65	
26 01 50 81-0054	EA	3 x 42", 30 Watt, 5000K CCT, LED Retrofit Kit (Optilumen RKT3415M-50) Note: Fits 2' x 4' Troffer/Strip	123.65	
26 01 50 81-0055	EA	3 x 42", 40 Watt, 3500K CCT, LED Retrofit Kit (Optilumen RKT3418M-35) Note: Fits 2' x 4' Troffer/Strip	131.51	
26 01 50 81-0056	EA	3 x 42", 40 Watt, 4000K CCT, LED Retrofit Kit (Optilumen RKT3418M-40) Note: Fits 2' x 4' Troffer/Strip	131.51	
26 01 50 81-0057	EA	3 x 42", 40 Watt, 5000K CCT, LED Retrofit Kit (Optilumen RKT3418M-50) Note: Fits 2' x 4' Troffer/Strip	131.51	
26 01 50 81-0058	EA	3 x 42", 60 Watt, 3500K CCT, LED Retrofit Kit (Optilumen RKT3424M-35) Note: Fits 2' x 4' Troffer/Strip	147.22	
26 01 50 81-0059	EA	3 x 42", 60 Watt, 4000K CCT, LED Retrofit Kit (Optilumen RKT3424M-40) Note: Fits 2' x 4' Troffer/Strip	147.22	
26 01 50 81-0060	EA	3 x 42", 60 Watt, 5000K CCT, LED Retrofit Kit (Optilumen RKT3424M-50) Note: Fits 2' x 4' Troffer/Strip	147.22	
26 01 50 81-0061	EA	1 x 21", 10 Watt, 3500K CCT, LED Retrofit Kit (Optilumen RKT1209M-35) Note: Fits 1' x 2' Troffer/Strip	119.72	
26 01 50 81-0062	EA	1 x 21", 10 Watt, 4000K CCT, LED Retrofit Kit (Optilumen RKT1209M-40) Note: Fits 1' x 2' Troffer/Strip	119.72	
26 01 50 81-0063	EA	1 x 21", 10 Watt, 5000K CCT, LED Retrofit Kit (Optilumen RKT1209M-50) Note: Fits 1' x 2' Troffer/Strip	119.72	
26 01 50 81-0064	EA	2 x 21", 22 Watt, 3500K CCT, LED Retrofit Kit (Optilumen RKT2209M-35) Note: Fits 2' x 2' Troffer/Strip	119.72	
26 01 50 81-0065	EA	2 x 21", 22 Watt, 4000K CCT, LED Retrofit Kit (Optilumen RKT2209M-40) Note: Fits 2' x 2' Troffer/Strip	119.72	
26 01 50 81-0066	EA	2 x 21", 22 Watt, 5000K CCT, LED Retrofit Kit (Optilumen RKT2209M-50) Note: Fits 2' x 2' Troffer/Strip	119.72	
26 01 50 81-0067	EA	3 x 21", 20 Watt, 3500K CCT, LED Retrofit Kit (Optilumen RKT3209M-35) Note: Fits 2' x 2' Troffer/Strip	123.65	
26 01 50 81-0068	EA	3 x 21", 20 Watt, 4000K CCT, LED Retrofit Kit (Optilumen RKT3209M-40) Note: Fits 2' x 2' Troffer/Strip	123.65	
26 01 50 81-0069	EA	3 x 21", 20 Watt, 5000K CCT, LED Retrofit Kit (Optilumen RKT3209M-50) Note: Fits 2' x 2' Troffer/Strip	123.65	
26 01 50 81-0070	EA	3 x 21", 30 Watt, 3500K CCT, LED Retrofit Kit (Optilumen RKT3210M-35) Note: Fits 2' x 2' Troffer/Strip	128.37	
26 01 50 81-0071	EA	3 x 21", 30 Watt, 4000K CCT, LED Retrofit Kit (Optilumen RKT3210M-40) Note: Fits 2' x 2' Troffer/Strip	128.37	
26 01 50 81-0072	EA	3 x 21", 30 Watt, 5000K CCT, LED Retrofit Kit (Optilumen RKT3210M-50) Note: Fits 2' x 2' Troffer/Strip	128.37	
26 01 50 81-0073		LED Lighting Retrofits For Existing Lay-In/Troffer Fixtures (LG) (26 01 50 81-0002) Note: Includes removing existing lamps and disconnecting existing ballast. Includes installing adaptor frame, LED light panel, dimming driver and trim. Excludes recycling or disposal of lamps and ballasts. See CSI section 02 84 16 00-0003 for ballast recycling.		
26 01 50 81-0074	EA	34 Watt, 3500K CCT, 2' x 4', Retrofit Troffer LED Fixture With Sensor (LG LGE-2X4RT-34-35-4400-R(W)-SN).....	248.64	
26 01 50 81-0075	EA	34 Watt, 4000K CCT, 2' x 4', Retrofit Troffer LED Fixture With Sensor (LG LGE-2X4RT-34-40-4500-R(W)-SN).....	248.64	
26 01 50 81-0076	EA	26 Watt, 3500K CCT, 2' x 2', Retrofit Troffer LED Fixture With Sensor (LG LGE-2X2RT-26-35-3400-R(W)-SN).....	225.86	
26 01 50 81-0077	EA	26 Watt, 4000K CCT, 2' x 2', Retrofit Troffer LED Fixture With Sensor (LG LGE-2X2RT-26-40-3400-R(W)-SN).....	225.86	
26 01 50 81-0078	EA	25 Watt, 3,250 Lumens, 3500K CCT, Lay-In Retrofit 2' x 2' Troffer (LG LGE-2X2SI-25-35-3200-RV) Note: No sensor, ZigBee ready driver	119.86	
26 01 50 81-0079	EA	25 Watt, 3,250 Lumens, 4000K CCT, Lay-In Retrofit 2' x 2' Troffer (LG LGE-2X2SI-25-40-3200-RV) Note: No sensor, ZigBee ready driver	119.86	
26 01 50 81-0080	EA	31 Watt, 4,050 Lumens, 3500K CCT, Lay-In Retrofit 2' x 4' Troffer (LG LGE-2X2SI-31-35-3200-RV) Note: No sensor, ZigBee ready driver	134.79	
26 01 50 81-0081	EA	31 Watt, 4,050 Lumens, 4000K CCT, Lay-In Retrofit 2' x 4' Troffer (LG LGE-2X2SI-31-40-3200-RV) Note: No sensor, ZigBee ready driver	134.79	
26 01 50 81-0082	EA	25 Watt, 3,250 Lumens, 3500K CCT, Lay-In Retrofit 2' x 2' Troffer With Sensor Connect (LG LGE-2X2SC-25-35-3200-RV) Note: Factory installed sensor and ZigBee dongle	145.78	
26 01 50 81-0083	EA	25 Watt, 3,250 Lumens, 4000K CCT, Lay-In Retrofit 2' x 2' Troffer With Sensor Connect (LG LGE-2X2SC-25-40-3200-RV) Note: Factory installed sensor and ZigBee dongle	145.78	
26 01 50 81-0084	EA	31 Watt, 3,250 Lumens, 3500K CCT, Lay-In Retrofit 2' x 4' Troffer With Sensor Connect (LG LGE-2X2SC-31-35-3200-RV) Note: Factory installed sensor and ZigBee dongle	149.71	
26 01 50 81-0085	EA	31 Watt, 3,250 Lumens, 4000K CCT, Lay-In Retrofit 2' x 4' Troffer With Sensor Connect (LG LGE-2X2SC-31-40-3200-RV) Note: Factory installed sensor and ZigBee dongle	149.71	
26 01 50 81-0086	EA	2' x 2' 2-Board, 25 Watt, 3,120 Lumens, 3500K CCT, Retrofit Board Kits (LG LGE-2BDK-25-35-3120) Note: No sensor, ZigBee ready driver	97.08	
26 01 50 81-0087	EA	2' x 2' 2-Board, 25 Watt, 3,120 Lumens, 4000K CCT, Retrofit Board Kits (LG LGE-2BDK-25-40-3120) Note: No sensor, ZigBee ready driver	97.08	
26 01 50 81-0088	EA	2' x 4' 4-Board, 31 Watt, 3,120 Lumens, 3500K CCT, Retrofit Board Kits (LG LGE-4BDK-31-35-3880) Note: No sensor, ZigBee ready driver	106.50	
26 01 50 81-0089	EA	2' x 4' 4-Board, 31 Watt, 3,120 Lumens, 4000K CCT, Retrofit Board Kits (LG LGE-4BDK-31-40-3880) Note: No sensor, ZigBee ready driver	106.50	
26 01 50 81-0090	EA	2' x 2' 2-Board, 25 Watt, 3,120 Lumens, 3500K CCT, With Lens Retrofit Board Kits (LG LGE-2BDK-25-35-3120-L) Note: No sensor, ZigBee ready driver	99.43	
26 01 50 81-0091	EA	2' x 2' 2-Board, 25 Watt, 3,120 Lumens, 4000K CCT, With Lens Retrofit Board Kits (LG LGE-2BDK-25-40-3120-L) Note: No sensor, ZigBee ready driver	99.43	
26 01 50 81-0092	EA	2' x 4' 4-Board, 31 Watt, 3,120 Lumens, 3500K CCT, With Lens Retrofit Board Kits (LG LGE-4BDK-31-35-3880-L) Note: No sensor, ZigBee ready driver	108.86	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 81-0093	EA	2" x 4' 4-Board, 31 Watt, 3,120 Lumens, 4000K CCT, With Lens Retrofit Board Kits (LG LGE-4BDK-31-40-3880-L).....	108.86	
		Note: No sensor, ZigBee ready driver		
26 01 50 81-0094	EA	6" Diameter, 16 Watt, 1,450 Lumens, 3500K CCT, Comm Retrofit Downlight (LG LGE-CRDL-16-35-1450).....	98.65	
		Note: No sensor, ZigBee ready driver		
26 01 50 81-0095	EA	6" Diameter, 16 Watt, 1,450 Lumens, 4000K CCT, Comm Retrofit Downlight (LG LGE-CRDL-16-40-1450).....	98.65	
		Note: No sensor, ZigBee ready driver		
26 01 50 81-0096	EA	8" Diameter, 22 Watt, 2,000 Lumens, 3500K CCT, Comm Retrofit Downlight (LG LGE-CRDL-22-35-2000).....	105.72	
		Note: No sensor, ZigBee ready driver		
26 01 50 81-0097	EA	8" Diameter, 22 Watt, 2,000 Lumens, 4000K CCT, Comm Retrofit Downlight (LG LGE-CRDL-22-40-2000).....	105.72	
		Note: No sensor, ZigBee ready driver		
26 01 50 81-0098		LED Lighting Retrofit Accessories (LG) (26 01 50 81-0002) See CSI section 02 84 16 00-0003 for ballast recycling.		
26 01 50 81-0099	EA	Dongle (LG LGE-DONGLE).....	25.11	
26 01 50 81-0100	EA	1-group On/Off/Dim, 2-Button, Wireless Switch (LG LGE-SWITCH-BAT-2B)	137.31	14.05
26 01 50 81-0101	EA	2-group On/Off/Dim, 4-Button, Wireless Switch (LG LGE-SWITCH-BAT-4B)	142.93	16.85
26 01 50 81-0102	EA	1-group On/Off/Dim, 2-Button, AC Powered Switch (LG LGE-SWITCH-AC-2B)	176.32	14.05
26 01 50 81-0103	EA	2-group On/Off/Dim, 4-Button, AC Powered Switch (LG LGE-SWITCH-AC-4B)	181.94	16.85
26 01 50 81-0104	EA	Photo, Motion Sensor With ZigBee Dongle plugin (LG LGE-MULTI-SENSOR)	90.74	11.24
26 01 50 81-0105	EA	Tube Clip For Multi Sensor (LG LGE-TUBE-CLIP).....	30.52	11.24
26 01 50 81-0106	EA	Ceiling Plate For Multi Sensor (LG LGE-CEILING-PLATE)	32.80	11.24
26 01 50 81-0107	EA	Wireless Interface Module (LG PIHN-W005A).....	85.40	16.85
		Note: includes dongle		
26 01 50 81-0108		Retrofit Existing (T12) Fluorescent Fixtures (26 01 50 81-0001) Note: Excludes recycling or disposal of lamps and ballasts. See CSI section 02 84 16 00-0003 for ballast recycling, 02 84 16 00-0008 for leaking ballast disposal.		
26 01 50 81-0109		Retrofit Existing (T12) Strip Style Fluorescent Fixtures Without Reflector (26 01 50 81-0108) Note: Includes ballast, white reflective ballast cover, lamps, lamp holders, clips, wiring, cable connectors and cleaning of fixture.		
26 01 50 81-0110	EA	Retrofit An Existing 4' (T12) Strip Style Fixture Without Reflector To Operate One 4' (T8) Lamp.....	109.60	
		For Specular Ballast Cover, Add	13.30	
26 01 50 81-0111	EA	Retrofit An Existing 4' (T12) Strip Style Fixture Without Reflector To Operate Two 4' (T8) Lamps.....	116.16	
		For Specular Ballast Cover, Add	14.61	
26 01 50 81-0112	EA	Retrofit An Existing 8' (T12) Strip Style Fixture Without Reflector To Operate Two 4' (T8) Lamps.....	157.61	
		For Specular Ballast Cover, Add	22.90	
26 01 50 81-0113	EA	Retrofit An Existing 8' (T12) Strip Style Fixture Without Reflector To Operate Four 4' (T8) Lamps	181.20	
		For Specular Ballast Cover, Add	27.62	
26 01 50 81-0114		Retrofit Existing (T12) Strip Style Fluorescent Fixtures With Reflector (26 01 50 81-0108) Note: Includes ballast, white reflector and ballast cover, lamps, lamp holders, clips, wiring, cable connectors and cleaning of fixture.		
26 01 50 81-0115	EA	Retrofit An Existing 4' (T12) Strip Style Fixture With Reflector To Operate One 4' (T8) Lamp	115.69	
		For Specular Reflector, Add	17.05	
26 01 50 81-0116	EA	Retrofit An Existing 4' (T12) Strip Style Fixture With Reflector To Operate Two 4' (T8) Lamps.....	122.98	
		For Specular Reflector, Add	17.05	
26 01 50 81-0117	EA	Retrofit An Existing 8' (T12) Strip Style Fixture With Reflector To Operate Two 4' (T8) Lamps.....	166.14	
		For Specular Reflector, Add	17.05	
26 01 50 81-0118	EA	Retrofit An Existing 8' (T12) Strip Style Fixture With Reflector To Operate Four 4' (T8) Lamps	213.16	
		For Specular Reflector, Add	17.05	
26 01 50 81-0119		Retrofit Existing (T12) Troffer Style Fluorescent Fixtures (26 01 50 81-0108) Note: Includes ballast, white reflector and ballast cover, lamps, lamp holders, clips, wiring, cable connectors and cleaning of fixture.		
26 01 50 81-0120	EA	Retrofit An Existing 1 x 4 (T12) Troffer Style Fixture To Operate One 4' (T8) Lamps	143.87	
		For Specular Reflector, Add	17.05	
26 01 50 81-0121	EA	Retrofit An Existing 1 x 4 (T12) Troffer Style Fixture To Operate Two 4' (T8) Lamps	150.43	
		For Specular Reflector, Add	17.05	
26 01 50 81-0122	EA	Retrofit An Existing 2 x 2 (T12) Troffer Style Fixture To Operate Two 2' (T8) Lamps	153.63	
		For Specular Reflector, Add	17.05	
26 01 50 81-0123	EA	Retrofit An Existing 2 x 2 (T12) Troffer Style Fixture To Operate Three 2' (T8) Lamps	172.06	
		For Specular Reflector, Add	17.05	
26 01 50 81-0124	EA	Retrofit An Existing 2 x 2 (T12) Troffer Style Fixture To Operate Four 2' (T8) Lamps	209.95	
		For Specular Reflector, Add	17.05	
26 01 50 81-0125	EA	Retrofit An Existing 2 x 4 (T12) Troffer Style Fixture To Operate Two 4' (T8) Lamps	157.75	
		For Specular Reflector, Add	17.05	
26 01 50 81-0126	EA	Retrofit An Existing 2 x 4 (T12) Troffer Style Fixture To Operate Three 4' (T8) Lamps	173.35	
		For Specular Reflector, Add	17.05	
26 01 50 81-0127	EA	Retrofit An Existing 2 x 4 (T12) Troffer Style Fixture To Operate Four 4' (T8) Lamps	186.22	
		For Specular Reflector, Add	17.05	
26 01 50 81-0128		Retrofit Existing Recessed Lay-In/Troffer Fixtures (26 01 50 81-0001)		

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT UNIT COST DEMOLITION UNIT COST

26 01 50 81-0129		Fluorescent Volumetric Lighting Retrofits For Existing Recessed Lay-In/Troffer Fixtures (Lithonia) (26 01 50 81-0128)	
		Note: Includes removing existing lamps and ballast. Includes installing adaptor frame, volumetric reflectors, lamps and ballasts. Excludes recycling or disposal of lamps and ballasts. See CSI section 02 84 16 00-0003 for ballast recycling.	
26 01 50 81-0130	EA	2 T8 Lamps, 0.78 Ballast Factor, 2' x 4', Volumetric Lighting Retrofit For Existing Parabolic Recessed Fluorescent Fixtures (Lithonia 2RT8R).....	164.46
26 01 50 81-0131	EA	2 T8 Lamps, 0.88 Ballast Factor, 2' x 4', Volumetric Lighting Retrofit For Existing Parabolic Recessed Fluorescent Fixtures (Lithonia 2RT8R).....	164.46
26 01 50 81-0132	EA	2 T8 Lamps, 1.20 Ballast Factor, 2' x 4', Volumetric Lighting Retrofit For Existing Parabolic Recessed Fluorescent Fixtures (Lithonia 2RT8R).....	164.46
26 01 50 81-0133	EA	2 T8 Lamps, 0.88 Ballast Factor, Step Dimming Ballast, 2' x 4', Volumetric Lighting Retrofit For Existing Parabolic Recessed Fluorescent Fixtures (Lithonia 2RT8R).....	178.28
26 01 50 81-0134	EA	2 T8 Lamps, 0.78 Ballast Factor, 2' x 4', Volumetric Lighting Retrofit For Existing Lensed Recessed Fluorescent Fixtures (Lithonia 2RT8RT).....	164.46
26 01 50 81-0135	EA	2 T8 Lamps, 0.88 Ballast Factor, 2' x 4', Volumetric Lighting Retrofit For Existing Lensed Recessed Fluorescent Fixtures (Lithonia 2RT8RT).....	164.46
26 01 50 81-0136	EA	2 T8 Lamps, 1.20 Ballast Factor, 2' x 4', Volumetric Lighting Retrofit For Existing Lensed Recessed Fluorescent Fixtures (Lithonia 2RT8RT).....	164.46
26 01 50 81-0137	EA	2 T8 Lamps, 0.88 Ballast Factor, Step Dimming Ballast, 2' x 4', Volumetric Lighting Retrofit For Existing Lensed Recessed Fluorescent Fixtures (Lithonia 2RT8RT).....	178.28
26 01 50 81-0138	EA	2 T8 Lamps, 0.78 Ballast Factor, 2' x 2', Volumetric Lighting Retrofit For Existing Parabolic Recessed Fluorescent Fixtures (Lithonia 2RT8R).....	165.46
26 01 50 81-0139	EA	2 T8 Lamps, 0.88 Ballast Factor, 2' x 2', Volumetric Lighting Retrofit For Existing Parabolic Recessed Fluorescent Fixtures (Lithonia 2RT8R).....	165.46
26 01 50 81-0140	EA	2 T8 Lamps, 1.20 Ballast Factor, 2' x 2', Volumetric Lighting Retrofit For Existing Parabolic Recessed Fluorescent Fixtures (Lithonia 2RT8R).....	165.46
26 01 50 81-0141	EA	2 T8 Lamps, 0.88 Ballast Factor, Step Dimming Ballast, 2' x 2', Volumetric Lighting Retrofit For Existing Parabolic Recessed Fluorescent Fixtures (Lithonia 2RT8R).....	179.28
26 01 50 81-0142	EA	2 T8 Lamps, 0.78 Ballast Factor, 2' x 2', Volumetric Lighting Retrofit For Existing Lensed Recessed Fluorescent Fixtures (Lithonia 2RT8RT).....	165.46
26 01 50 81-0143	EA	2 T8 Lamps, 0.88 Ballast Factor, 2' x 2', Volumetric Lighting Retrofit For Existing Lensed Recessed Fluorescent Fixtures (Lithonia 2RT8RT).....	165.46
26 01 50 81-0144	EA	2 T8 Lamps, 1.20 Ballast Factor, 2' x 2', Volumetric Lighting Retrofit For Existing Lensed Recessed Fluorescent Fixtures (Lithonia 2RT8RT).....	165.46
26 01 50 81-0145	EA	2 T8 Lamps, 0.88 Ballast Factor, Step Dimming Ballast, 2' x 2', Volumetric Lighting Retrofit For Existing Lensed Recessed Fluorescent Fixtures (Lithonia 2RT8RT).....	179.28
26 01 50 81-0146		LED Architectural Lighting Retrofits For Existing Recessed Lay-In/Troffer Fixtures (PlanLED) (26 01 50 81-0128)	
		Note: Includes adaptor frame, optical system, LEDs and driver. Excludes recycling or disposal of lamps and ballasts. See CSI section 02 84 16 00-0003 for ballast recycling.	
26 01 50 81-0147	EA	2,400 Lumens, 2' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (PlanLED FR3E-025).....	224.68
26 01 50 81-0148	EA	4,300 Lumens, 2' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (PlanLED FR3E-045).....	234.08
26 01 50 81-0149		LED Architectural Lighting Retrofits For Existing Recessed Lay-In/Troffer Fixtures (Raffino™) (26 01 50 81-0128)	
		Note: Includes removing existing lamps and disconnecting existing ballast. Includes installing adaptor frame, LED light panel, dimming driver and trim. Excludes recycling or disposal of lamps and ballasts. See CSI section 02 84 16 00-0003 for ballast recycling.	
26 01 50 81-0150	EA	1,800 Lumens, 1' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Raffino™ LR14-1800L).....	352.70
26 01 50 81-0151	EA	2,600 Lumens, 1' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Raffino™ LR14-2700L).....	361.20
26 01 50 81-0152	EA	2,200 Lumens, 2' x 2', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Raffino™ LR22-2200L).....	352.70
26 01 50 81-0153	EA	3,300 Lumens, 2' x 2', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Raffino™ LR22-3300L).....	361.20
26 01 50 81-0154	EA	3,300 Lumens, 2' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Raffino™ LR24-3000L).....	403.66
26 01 50 81-0155	EA	4,150 Lumens, 2' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Raffino™ LR24-4000L).....	416.40
26 01 50 81-0156	EA	5,000 Lumens, 2' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Raffino™ LR24-5000L).....	446.13
26 01 50 81-0157		LED Architectural Lighting Retrofits For Existing Recessed Lay-In/Troffer Fixtures (Orion) (26 01 50 81-0128)	
		Note: Includes removing existing lamps and disconnecting existing ballast. Includes installing adaptor frame, LED light panel, dimming driver and trim. Excludes recycling or disposal of lamps and ballasts. See CSI section 02 84 16 00-0003 for ballast recycling.	
26 01 50 81-0158	EA	3,000 Lumens, 2' x 2', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Orion LDR-030L-FO-UNV-FDX-840-22-1P-CT-M-ST).....	326.71
26 01 50 81-0159	EA	3,500 Lumens, 2' x 2', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Orion LDR-035L-FO-UNV-FDX-840-22-1P-CT-M-ST).....	338.56
26 01 50 81-0160	EA	3,200 Lumens, 2' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Orion LDR-032L-FO-UNV-FDX-840-24-1P-CT-M-ST).....	342.11



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 81-0161	EA	3,800 Lumens, 2' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Orion LDR-038L-FO-UNV-FDX-840-24-1P-CT-M-ST)	353.96	
26 01 50 81-0162	EA	2,000 Lumens, 2' x 2', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Orion LDRE1A1UNVFDSX84022MST)	246.75	
26 01 50 81-0163	EA	4,000 Lumens, 2' x 2', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Orion LDRE1B1UNVFDSX84022MST)	252.38	
26 01 50 81-0164	EA	3,000 Lumens, 2' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Orion LDRE1D1UNVFDSX84024MST)	261.38	
26 01 50 81-0165	EA	4,000 Lumens, 2' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Orion LDRE1E1UNVFDSX84024MST)	267.01	
26 01 50 81-0166	EA	6,000 Lumens, 2' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (Orion LDRE1F1UNVFDSX84024MST)	330.03	
26 01 50 81-0167	EA	8,000 Lumens, 2' x 4', LED Architectural Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (ORION LDRE1G1UNVFDSX84024MST)	393.05	
26 01 50 81-0168		Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components) (26 01 50 81-0128) Note: Includes adaptor frame, optical system, lamps and ballasts. Excludes recycling or disposal of lamps and ballasts. See CSI section 02 84 16 00-0003 for ballast recycling.		
26 01 50 81-0169	EA	1 T5 Lamp, 2' x 2', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	302.79	
26 01 50 81-0170	EA	1 T8 Lamp, 2' x 2', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	220.60	
26 01 50 81-0171	EA	2 T5 Lamps, 2' x 2', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	310.67	
26 01 50 81-0172	EA	2 T8 Lamps, 2' x 2', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	228.42	
26 01 50 81-0173	EA	3 T5 Lamps, 2' x 2', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	324.95	
26 01 50 81-0174	EA	3 T8 Lamps, 2' x 2', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	249.39	
26 01 50 81-0175	EA	1 T5 Lamp, 2' x 4', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	355.85	
26 01 50 81-0176	EA	1 T8 Lamp, 2' x 4', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	273.48	
26 01 50 81-0177	EA	2 T5 Lamps, 2' x 4', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	363.24	
26 01 50 81-0178	EA	2 T8 Lamps, 2' x 4', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	280.93	
26 01 50 81-0179	EA	3 T5 Lamps, 2' x 4', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	377.34	
26 01 50 81-0180	EA	3 T8 Lamps, 2' x 4', Fluorescent Direct-Indirect Louver Lighting Retrofit For Existing Recessed Lay-In/Troffer Fixtures (A.L.P. Lighting Components)	301.79	
26 01 50 81-0181		LED Volumetric Lighting Retrofit For Existing Lensed Or Parabolic Recessed Lay-In/Troffer Fixtures (Lithonia 2VTL2R/RT) (26 01 50 81-0128) Note: Includes removing existing lamps and ballast. Includes installing LED light engine assembly, dimming driver and trim. Excludes recycling or disposal of lamps and ballasts. See CSI section 02 84 16 00-0003 for ballast recycling.		
26 01 50 81-0182	EA	3,300 Lumens, 2' x 2', LED Volumetric Lighting Retrofit For Existing Lensed Or Parabolic Recessed Lay-In/Troffer Fixtures (Lithonia 2VTL2R/RT)	651.35	
26 01 50 81-0183	EA	4,800 Lumens, 2' x 4', LED Volumetric Lighting Retrofit For Existing Lensed Or Parabolic Recessed Lay-In/Troffer Fixtures (Lithonia 2VTL4R/RT)	723.77	
26 01 50 81-0184		Retrofit Existing Fixtures With Emergency Battery Pack (26 01 50 81-0001)		
26 01 50 81-0185	EA	90 minute, 10 Watt, 50 VDC, Emergency Battery Pack for 2x4 LED Lighting Fixture (AcuityBrands Power Sentry® PS1050 FIK)	511.09	
26 01 50 81-0186	EA	90 minute, 10 Watt, 50 VDC, Emergency Battery Pack for 2x4 LED Lighting Fixture (AcuityBrands Power Sentry® PS1055LCP M5)	552.45	
26 01 50 81-0187		Retrofit Existing HID Fixtures (26 01 50 81-0001)		
26 01 50 81-0188	EA	Tear Drop LED Retrofit Kit (Holograph LTDR L2 P35S 40K AS BK TDRD 3 P)	1,475.50	
26 01 50 81-0189		LED Lighting Retrofits For Existing Fluorescent Fixtures (26 01 50 81-0001) Note: Excludes recycling or disposal of lamps and ballasts.		
26 01 50 81-0190		LED Lightbar Retrofit For Existing Fluorescent Fixtures (Lithonia) (26 01 50 81-0189)		
26 01 50 81-0191	EA	2' Length, 2 Bar, 2,000 Lumens, 3500K CCT, Lightbar Kit LED Retrofit System (Lithonia LBK 2FT 2 2000LMHE 80CRI 35K MIN10 GZT MVOLT)	116.16	
		For >25 To 50, Deduct	-5.81	
		For >50 To 100, Deduct	-10.10	
		For >100, Deduct	-17.16	
26 01 50 81-0192	EA	2' Length, 4 Bar, 8,000 Lumens, 3500K CCT, Lightbar Kit LED Retrofit System (Lithonia LBK 2FT 4 8000LMHE 80CRI MIN10 GZT MVOLT)	168.21	
		For >25 To 50, Deduct	-8.41	
		For >50 To 100, Deduct	-14.00	
		For >100, Deduct	-22.37	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 81-0193	EA	3' Length, 2 Bar, 4,000 Lumens, 3500K CCT, Lightbar Kit LED Retrofit System (Lithonia LBK 3FT 2 4000LMHE 80CRI 35K MIN10 GZT MVOLT).....	126.30	
		For >25 To 50, Deduct	-6.32	
		For >50 To 100, Deduct	-10.94	
		For >100, Deduct	-18.48	
26 01 50 81-0194	EA	3' Length, 1 Bar, 1,600 Lumens, 3500K CCT, Lightbar Kit LED Retrofit System (Lithonia LBK 3FT 1 1600LMHE 80CRI 35K MIN10 GZT MVOLT).....	116.14	
		For >25 To 50, Deduct	-5.81	
		For >50 To 100, Deduct	-10.17	
		For >100, Deduct	-17.47	
26 01 50 81-0195	EA	4' Length, 2 Bar, 6,000 Lumens, 3500K CCT, Lightbar Kit LED Retrofit System (Lithonia LBK 4FT 2 6000LMHE 80CRI 35K MIN10 GZT MVOLT).....	151.81	
		For >25 To 50, Deduct	-7.59	
		For >50 To 100, Deduct	-12.93	
		For >100, Deduct	-21.34	
26 01 50 81-0196	EA	4' Length, 4 Bar, 6,000 Lumens, 3500K CCT, Lightbar Kit LED Retrofit System (Lithonia LBK 4FT 4 6000LMHE 80CRI 35K MIN10 GZT MVOLT).....	196.92	
		For >25 To 50, Deduct	-9.85	
		For >50 To 100, Deduct	-16.31	
		For >100, Deduct	-25.85	
26 01 50 81-0197	EA	4' Length, 1 Bar, 3,000 Lumens, 3500K CCT, Lightbar Kit LED Retrofit System (Lithonia LBK 4FT 1 3000LMHE 80CRI 35K MIN10 GZT MVOLT).....	125.49	
		For >25 To 50, Deduct	-6.27	
		For >50 To 100, Deduct	-10.95	
		For >100, Deduct	-18.71	
26 01 50 81-0198	EA	4' Length, 1 Bar, 4,000 Lumens, 3500K CCT, Lightbar Kit LED Retrofit System (Lithonia LBK 4FT 1 4000LMHE 80CRI 35K MIN10 GZT MVOLT).....	125.49	
		For >25 To 50, Deduct	-6.27	
		For >50 To 100, Deduct	-10.95	
		For >100, Deduct	-18.71	
26 01 50 81-0199	EA	4' Length, 4 Bar, 8,000 Lumens, 3500K CCT, Lightbar Kit LED Retrofit System (Lithonia LBK 4FT 4 8000LMHE 80CRI 35K MIN10 GZT MVOLT).....	160.83	
		For >25 To 50, Deduct	-8.04	
		For >50 To 100, Deduct	-13.60	
		For >100, Deduct	-22.24	
26 01 50 81-0200	EA	4' Length, 2 Bar, 4,000 Lumens, 3500K CCT, Lightbar Kit LED Retrofit System (Lithonia LBK 4FT 2 4000LMHE 80CRI 35K MIN10 GZT MVOLT).....	136.77	
		For >25 To 50, Deduct	-6.84	
		For >50 To 100, Deduct	-11.80	
		For >100, Deduct	-19.84	
26 01 50 81-0201	EA	4' Length, 2 Bar, 3,000 Lumens, 3500K CCT, Lightbar Kit LED Retrofit System (Lithonia LBK 4FT 2 3000LMHE 80CRI 35K MIN10 GZT MVOLT).....	136.77	
		For >25 To 50, Deduct	-6.84	
		For >50 To 100, Deduct	-11.80	
		For >100, Deduct	-19.84	
26 01 50 81-0202		LED Retrofit For Existing Fluorescent Fixtures (Lithonia) (26 01 50 81-0189)		
26 01 50 81-0203	EA	1'x 4', 4,000 Lumens, 3500K CCT, Square Smooth Diffuser, Dimming LED Relight Assembly (Lithonia BLT4R F 40LHE SDSMT MVOLT EZ1 LP835 NLTAIR2).....	274.77	
		For nLight AIR PIR integral occupancy sensor with automatic dimming photocell for Networking Capabilities Individual Control (nLight RES7), Add	179.91	
		For nLight AIR radio module without sensor (nLight RIO), Add	116.95	
		For >25 To 50, Deduct	-13.74	
		For >50 To 100, Deduct	-22.15	
		For >100, Deduct	-33.64	
26 01 50 81-0204	EA	1'x 4', 4,800 Lumens, 3500K CCT, Curved Smooth Diffuser, Dimming LED Relight Assembly (Lithonia BLT4R 48LHE ADSMT MVOLT EZ1 LP835 NLTAIR2).....	296.11	
		For nLight AIR PIR integral occupancy sensor with automatic dimming photocell for Networking Capabilities Individual Control (nLight RES7), Add	179.91	
		For nLight AIR radio module without sensor (nLight RIO), Add	116.95	
		For >25 To 50, Deduct	-14.81	
		For >50 To 100, Deduct	-23.75	
		For >100, Deduct	-35.77	
26 01 50 81-0205	EA	2'x 2', 3,300 Lumens, 3500K CCT, Square Smooth Diffuser, Dimming LED Relight Assembly (Lithonia 2BLT2R 33LHE SDSMT MVOLT EZ1 LP835 NLTAIR2).....	312.06	
		For nLight AIR PIR integral occupancy sensor with automatic dimming photocell for Networking Capabilities Individual Control (nLight RES7), Add	179.91	
		For nLight AIR radio module without sensor (nLight RIO), Add	116.95	
		For >25 To 50, Deduct	-15.60	
		For >50 To 100, Deduct	-24.94	
		For >100, Deduct	-37.37	
26 01 50 81-0206	EA	2'x 2', 4,000 Lumens, 3500K CCT, Square Smooth Diffuser, Dimming LED Relight Assembly (Lithonia 2BLT2R F 40LHE SDSMT MVOLT EZ1 LP835 NLTAIR2).....	336.98	
		For nLight AIR PIR integral occupancy sensor with automatic dimming photocell for Networking Capabilities Individual Control (nLight RES7), Add	179.91	
		For nLight AIR radio module without sensor (nLight RIO), Add	116.95	
		For >25 To 50, Deduct	-16.85	
		For >50 To 100, Deduct	-26.81	
		For >100, Deduct	-39.86	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 81-0207	EA		2'x 4', 4,000 Lumens, 3500K CCT, Curved Smooth Diffuser, Dimming LED Relight Assembly (Lithonia 2BLT4R 40LHE ADSMT MVOLT EZ1 LP835 NLTAIR2 RIO).....	361.57	
			For nLight AIR PIR integral occupancy sensor with automatic dimming photocell for Networking Capabilities Individual Control (nLight RES7), Add	179.91	
			For nLight AIR radio module without sensor (nLight RIO), Add	116.95	
			For >25 To 50, Deduct	-18.08	
			For >50 To 100, Deduct	-28.97	
			For >100, Deduct	-43.55	
26 01 50 81-0208	EA		2'x 4', 4,800 Lumens, 3500K CCT, Curved Smooth Diffuser, Dimming LED Relight Assembly (Lithonia 2BLT4R 48LHE ADSMT MVOLT EZ1 LP835 NLTAIR2 RIO).....	390.51	
			For nLight AIR PIR integral occupancy sensor with automatic dimming photocell for Networking Capabilities Individual Control (nLight RES7), Add	179.91	
			For nLight AIR radio module without sensor (nLight RIO), Add	116.95	
			For >25 To 50, Deduct	-19.53	
			For >50 To 100, Deduct	-31.14	
			For >100, Deduct	-46.44	
26 01 50 81-0209			LED Lighting Retrofits For Existing Fluorescent Fixtures (ELED Lights) (26 01 50 81-0189)		
			Note: Includes removal of existing fluorescent lamps, installing LED strip lighting and trim. Excludes recycling or disposal of lamps. See CSI section 02 84 16 00-0003 for ballast recycling.		
26 01 50 81-0210	EA		2' Dimmable, 20 Watts, 2900 Lumens, 4000K, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 2X2STRPD20W40)	106.85	
			Note: Kit contains two 2-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-5.34	
			For >50 To 100, Deduct	-9.40	
			For >100, Deduct	-16.23	
26 01 50 81-0211	EA		2' Dimmable, 20 Watts, 2900 Lumens, 5000K, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 2X2STRPD20W50)	106.85	
			Note: Kit contains two 2-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-5.34	
			For >50 To 100, Deduct	-9.40	
			For >100, Deduct	-16.23	
26 01 50 81-0212	EA		4' Dimmable, 32 Watts, 5000 Lumens, 4000K, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 2X4STRPD32W40)	140.54	
			Note: Kit contains two 4-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-7.03	
			For >50 To 100, Deduct	-12.08	
			For >100, Deduct	-20.21	
26 01 50 81-0213	EA		4' Dimmable, 32 Watts, 5000 Lumens, 5000K, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 2X4STRPD32W50)	140.54	
			Note: Kit contains two 4-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-7.03	
			For >50 To 100, Deduct	-12.08	
			For >100, Deduct	-20.21	
26 01 50 81-0214	EA		4' Dimmable, 35 Watts, 5500 Lumens, 3000K, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4STRPUSA035UN30)	140.65	
			Note: Kit contains four 2-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-7.03	
			For >50 To 100, Deduct	-12.09	
			For >100, Deduct	-20.22	
26 01 50 81-0215	EA		4' Dimmable, 35 Watts, 5500 Lumens, 3000K, Frosted Lens, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4STRPUSA035UN30F)	153.31	
			Note: Kit contains four 2-foot magnetic linear LED strips, frosted lens covers, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-7.67	
			For >50 To 100, Deduct	-13.04	
			For >100, Deduct	-21.49	
26 01 50 81-0216	EA		4' Dimmable, 35 Watts, 5500 Lumens, 3500K, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4STRPUSA035UN35)	140.65	
			Note: Kit contains four 2-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-7.03	
			For >50 To 100, Deduct	-12.09	
			For >100, Deduct	-20.22	
26 01 50 81-0217	EA		4' Dimmable, 35 Watts, 5500 Lumens, 3500K, Frosted Lens, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4STRPUSA035UN35F)	153.31	
			Note: Kit contains four 2-foot magnetic linear LED strips, frosted lens covers, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-7.67	
			For >50 To 100, Deduct	-13.04	
			For >100, Deduct	-21.49	
26 01 50 81-0218	EA		4' Dimmable, 35 Watts, 5500 Lumens, 4000K, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4STRPUSA035UN40)	140.65	
			Note: Kit contains four 2-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-7.03	
			For >50 To 100, Deduct	-12.09	
			For >100, Deduct	-20.22	
26 01 50 81-0219	EA		4' Dimmable, 35 Watts, 5500 Lumens, 4000K, Frosted Lens, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4STRPUSA035UN40F)	153.31	
			Note: Kit contains four 2-foot magnetic linear LED strips, frosted lens covers, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-7.67	
			For >50 To 100, Deduct	-13.04	
			For >100, Deduct	-21.49	

26 Electrical**26 01 Operation and Maintenance of Electrical Systems****26 01 50 Operation and Maintenance of Lighting**

MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 81-0220	EA	4' Dimmable, 35 Watts, 5500 Lumens, 5000K, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4STRPUSA035UN50).....	140.65	
		Note: Kit contains four 2-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
		For >25 To 50, Deduct	-7.03	
		For >50 To 100, Deduct	-12.09	
		For >100, Deduct	-20.22	
26 01 50 81-0221	EA	4' Dimmable, 35 Watts, 5500 Lumens, 5000K, Frosted Lens, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4STRPUSA035UN50F).....	153.31	
		Note: Kit contains four 2-foot magnetic linear LED strips, frosted lens covers, connectors, and magnetic-mount LED driver		
		For >25 To 50, Deduct	-7.67	
		For >50 To 100, Deduct	-13.04	
		For >100, Deduct	-21.49	
26 01 50 81-0222	EA	4' Dimmable, 46 Watts, 6800 Lumens, 5000K, Ultra High Lumen Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 2X4STRPD46W50).....	153.20	
		Note: Kit contains two 4-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
		For >25 To 50, Deduct	-7.66	
		For >50 To 100, Deduct	-13.03	
		For >100, Deduct	-21.48	
26 01 50 81-0223	EA	4' Dimmable, 31 Watts, 5730 Lumens, 4000K, High Efficacy Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4C3STRP031DD40).....	180.29	
		Note: Kit contains two 4-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
		For >25 To 50, Deduct	-9.01	
		For >50 To 100, Deduct	-15.06	
		For >100, Deduct	-24.19	
26 01 50 81-0224	EA	4' Dimmable, 31 Watts, 5730 Lumens, 4000K, Frosted Lens, High Efficacy Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4C3STRP031DD40F).....	196.12	
		Note: Kit contains two 4-foot magnetic linear LED strips, frosted lens covers, connectors, and magnetic-mount LED driver		
		For >25 To 50, Deduct	-9.81	
		For >50 To 100, Deduct	-16.25	
		For >100, Deduct	-25.77	
26 01 50 81-0225	EA	4' Dimmable, 31 Watts, 5730 Lumens, 5000K, High Efficacy Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4C3STRP031DD50).....	180.29	
		Note: Kit contains two 4-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
		For >25 To 50, Deduct	-9.01	
		For >50 To 100, Deduct	-15.06	
		For >100, Deduct	-24.19	
26 01 50 81-0226	EA	4' Dimmable, 31 Watts, 5730 Lumens, 5000K, Frosted Lens, High Efficacy Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4C3STRP031DD50F).....	196.12	
		Note: Kit contains two 4-foot magnetic linear LED strips, frosted lens covers, connectors, and magnetic-mount LED driver		
		For >25 To 50, Deduct	-9.81	
		For >50 To 100, Deduct	-16.25	
		For >100, Deduct	-25.77	
26 01 50 81-0227	EA	20 Watts, Emergency Battery Backup, For Use With 2' And 4' Linear LED Retrofit Kits (ELEDLIGHTS BLD-AM20D-480800).....	194.33	
		Note: 90-minute emergency battery with DIP switch-selectable power output of 10 Watts, 15 Watts, or 20 Watts		
		For >25 To 50, Deduct	-9.72	
		For >50 To 100, Deduct	-14.88	
		For >100, Deduct	-20.67	
26 01 50 81-0228	EA	20 Watts, Emergency Battery Backup, For Use With 2' And 4' Linear LED Retrofit Kits (ELEDLIGHTS EM-HM-20W).....	178.31	
		Note: 90-minute emergency battery with power output of 20 Watts		
		For >25 To 50, Deduct	-8.92	
		For >50 To 100, Deduct	-13.68	
		For >100, Deduct	-19.06	
26 01 50 81-0229	EA	8' Dimmable, 46 Watts, 7400 Lumens, 5000K, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4X4STRPD46W50).....	182.76	
		Note: Kit contains four 4-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
		For >25 To 50, Deduct	-9.14	
		For >50 To 100, Deduct	-15.71	
		For >100, Deduct	-26.28	
26 01 50 81-0230	EA	8' Dimmable, 49 Watts, 6680 Lumens, 5000K, Frosted Lens, Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4X4STRPD49W50F).....	190.67	
		Note: Kit contains four 4-foot magnetic linear LED strips, frosted lens covers, connectors, and magnetic-mount LED driver		
		For >25 To 50, Deduct	-9.53	
		For >50 To 100, Deduct	-16.30	
		For >100, Deduct	-27.07	
26 01 50 81-0231	EA	8' Dimmable, 64 Watts, 11850 Lumens, 4000K, High Efficacy Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4C3STRP031DD40).....	268.41	
		Note: Kit contains four 4-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
		For >25 To 50, Deduct	-13.42	
		For >50 To 100, Deduct	-22.13	
		For >100, Deduct	-34.85	
26 01 50 81-0232	EA	8' Dimmable, 64 Watts, 11850 Lumens, 4000K, Frosted Lens, High Efficacy Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4C3STRP031DD40F).....	300.07	
		Note: Kit contains four 4-foot magnetic linear LED strips, frosted lens covers, connectors, and magnetic-mount LED driver		
		For >25 To 50, Deduct	-15.00	
		For >50 To 100, Deduct	-24.51	
		For >100, Deduct	-38.01	



MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 01 50 81-0233	EA		8' Dimmable, 64 Watts, 11850 Lumens, 5000K, High Efficacy Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4C3STRP031DD50).....	268.41	
			Note: Kit contains four 4-foot magnetic linear LED strips, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-13.42	
			For >50 To 100, Deduct	-22.13	
			For >100, Deduct	-34.85	
26 01 50 81-0234	EA		8' Dimmable, 64 Watts, 11850 Lumens, 5000K, Frosted Lens, High Efficacy Magnetic Linear LED Retrofit Kit (ELEDLIGHTS 4C3STRP031DD50F).....	300.07	
			Note: Kit contains four 4-foot magnetic linear LED strips, frosted lens covers, connectors, and magnetic-mount LED driver		
			For >25 To 50, Deduct	-15.00	
			For >50 To 100, Deduct	-24.51	
			For >100, Deduct	-38.01	

26 05 Common Work Results for Electrical (26)

26 05 13 Medium-Voltage Cables (26 05)

26 05 13 16 Medium-Voltage, Single-and Multi-Conductor Cables (26 05 13)

26 05 13 16-0001		Wire And Cable (26 05 13 16)		
		Note: Pulled in conduit except as noted. Includes pull wires, pulling branch circuit conductors, testing, and splicing (#8 and lighter). All conductors are copper except as otherwise noted. No special set-up is required. Excludes terminations.		
26 05 13 16-0002		5 KV Cable (26 05 13 16-0001)		
26 05 13 16-0003		Cross-Linked Polyethylene (XLP) Insulation, 5 KV, Shielded, Single Copper Conductor, 133 Percent Insulation, Installed In Duct (26 05 13 16-0002)		
26 05 13 16-0004	MLF	#6 AWG, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	3,530.65	960.19
26 05 13 16-0005	MLF	#4 AWG, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	4,149.07	1,048.44
26 05 13 16-0006	MLF	#2 AWG, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	4,929.04	1,184.57
26 05 13 16-0007	MLF	1/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	6,369.64	1,459.45
26 05 13 16-0008	MLF	2/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	7,248.44	1,643.46
26 05 13 16-0009	MLF	3/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	8,830.72	1,824.21
26 05 13 16-0010	MLF	4/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	9,938.62	2,049.68
26 05 13 16-0011	MLF	250 MCM, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	11,745.89	2,280.36
26 05 13 16-0012	MLF	350 MCM, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	13,714.40	2,722.70
26 05 13 16-0013	MLF	500 MCM, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	17,211.09	3,200.47
26 05 13 16-0014	MLF	750 MCM, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	25,303.83	3,772.09
26 05 13 16-0015	MLF	1,000 MCM, XLP, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct.....	33,402.61	4,343.45
26 05 13 16-0016		Cross-Linked Polyethylene (XLP) Insulation, 5 KV, Shielded, Single Copper Conductor, 133 Percent Insulation, Direct Burial (26 05 13 16-0002)		
		Note: Excludes excavation.		
26 05 13 16-0017	MLF	#6 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	3,410.63	
26 05 13 16-0018	MLF	#4 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	3,808.34	
26 05 13 16-0019	MLF	#2 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	4,247.91	
26 05 13 16-0020	MLF	1/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	5,226.97	
26 05 13 16-0021	MLF	2/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	5,645.61	
26 05 13 16-0022	MLF	3/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	7,001.01	
26 05 13 16-0023	MLF	4/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	7,545.23	
26 05 13 16-0024	MLF	250 MCM, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	9,006.56	
26 05 13 16-0025	MLF	350 MCM, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	9,988.99	
26 05 13 16-0026	MLF	500 MCM, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	12,399.23	
26 05 13 16-0027		Cross-Linked Polyethylene (XLP) Insulation, 5 KV, Shielded, Single Copper Conductor, 133 Percent Insulation, Installed On Poles (Aerial) (26 05 13 16-0002)		
26 05 13 16-0028	MLF	#6 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	2,714.96	603.14
26 05 13 16-0029	MLF	#4 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	3,227.36	646.70
26 05 13 16-0030	MLF	#2 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	4,116.24	817.81
26 05 13 16-0031	MLF	1/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	5,329.58	992.79
26 05 13 16-0032	MLF	2/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	6,201.86	1,165.45
26 05 13 16-0033	MLF	3/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	7,772.04	1,332.81
26 05 13 16-0034	MLF	4/0 AWG, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	8,877.47	1,546.43
26 05 13 16-0035	MLF	250 MCM, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	11,156.82	1,945.51
26 05 13 16-0036	MLF	350 MCM, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	13,375.38	2,461.69
26 05 13 16-0037	MLF	500 MCM, XLP, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	17,336.31	3,092.87
26 05 13 16-0038		5 KV Non-Shielded Single Copper Conductor (26 05 13 16-0002)		
26 05 13 16-0039	MLF	1/0 AWG, 5 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct.....	7,608.94	1,913.55
26 05 13 16-0040	MLF	2/0 AWG, 5 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct.....	8,666.54	1,941.05
26 05 13 16-0041	MLF	3/0 AWG, 5 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct.....	9,724.15	1,968.55
26 05 13 16-0042	MLF	4/0 AWG, 5 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct.....	10,115.21	2,012.06
26 05 13 16-0043	MLF	350 MCM, 5 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct.....	11,982.37	2,088.81
26 05 13 16-0044	MLF	500 MCM, 5 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct.....	16,772.99	2,189.10
26 05 13 16-0045	MLF	750 MCM, 5 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct.....	25,674.66	2,736.37
26 05 13 16-0046	MLF	1,000 MCM, 5 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct.....	29,838.34	3,648.55

26 Electrical**26 05 Common Work Results for Electrical****26 05 13 Medium-Voltage Cables**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

26 05 13 16-0047 Ethylene-Propylene Rubber (EPR) Insulation, 5 KV, Shielded, Single Copper Conductor, 133 Percent Insulation, Installed In Duct (26 05 13 16-0002)

26 05 13 16-0048	MLF #6 AWG, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	3,734.10	960.19
26 05 13 16-0049	MLF #4 AWG, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	4,424.11	1,048.44
26 05 13 16-0050	MLF #2 AWG, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	5,283.20	1,184.57
26 05 13 16-0051	MLF #1 AWG, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	6,071.15	1,321.94
26 05 13 16-0052	MLF 1/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	6,859.45	1,459.45
26 05 13 16-0053	MLF 2/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	7,813.60	1,643.46
26 05 13 16-0054	MLF 3/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	9,599.33	1,824.21
26 05 13 16-0055	MLF 4/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	10,805.20	2,049.68
26 05 13 16-0056	MLF 250 MCM, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	12,834.01	2,280.36
26 05 13 16-0057	MLF 350 MCM, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	14,957.75	2,722.70
26 05 13 16-0058	MLF 500 MCM, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	18,868.89	3,200.47
26 05 13 16-0059	MLF 750 MCM, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	28,161.69	3,772.09
26 05 13 16-0060	MLF 1,000 MCM, EPR, 5 KV, Shielded, Single Copper Conductor Cable, Installed In Duct	37,480.52	4,343.45

26 05 13 16-0061 Ethylene-Propylene Rubber (EPR) Insulation, 5 KV, Shielded, Single Copper Conductor, 133 Percent Insulation, Direct Burial (26 05 13 16-0002)

Note: Excludes excavation.

26 05 13 16-0062	MLF #6 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	3,614.09	
26 05 13 16-0063	MLF #4 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	4,083.39	
26 05 13 16-0064	MLF #2 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	4,602.08	
26 05 13 16-0065	MLF #1 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	5,159.96	
26 05 13 16-0066	MLF 1/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	5,716.77	
26 05 13 16-0067	MLF 2/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	6,210.77	
26 05 13 16-0068	MLF 3/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	7,769.62	
26 05 13 16-0069	MLF 4/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	8,411.81	
26 05 13 16-0070	MLF 250 MCM, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	10,094.68	
26 05 13 16-0071	MLF 350 MCM, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	11,232.34	
26 05 13 16-0072	MLF 500 MCM, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	14,057.03	

26 05 13 16-0073 Ethylene-Propylene Rubber (EPR) Insulation, 5 KV, Shielded, Single Copper Conductor, 133 Percent Insulation, Installed On Poles (Aerial) (26 05 13 16-0002)

26 05 13 16-0074	MLF #6 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	2,918.41	603.14
26 05 13 16-0075	MLF #4 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	3,502.40	646.70
26 05 13 16-0076	MLF #2 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	4,470.40	817.81
26 05 13 16-0077	MLF #1 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	5,143.29	904.65
26 05 13 16-0078	MLF 1/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	5,819.39	992.79
26 05 13 16-0079	MLF 2/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	6,767.02	1,165.45
26 05 13 16-0080	MLF 3/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	8,540.65	1,332.81
26 05 13 16-0081	MLF 4/0 AWG, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	9,744.05	1,546.43
26 05 13 16-0082	MLF 250 MCM, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	12,244.94	1,945.51
26 05 13 16-0083	MLF 350 MCM, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	14,618.73	2,461.69
26 05 13 16-0084	MLF 500 MCM, EPR, 5 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	18,994.11	3,092.87

26 05 13 16-0085 15 KV Cable (26 05 13 16-0001)

26 05 13 16-0086 Cross-Linked Polyethylene (XLP) Insulation, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable (26 05 13 16-0085)

26 05 13 16-0087 Cross-Linked Polyethylene (XLP) Insulation, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct (26 05 13 16-0086)

26 05 13 16-0088	MLF #4 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	7,548.99	1,913.55
26 05 13 16-0089	MLF #2 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	8,111.49	1,913.55
26 05 13 16-0090	MLF #1 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	8,326.05	1,913.55
26 05 13 16-0091	MLF 1/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	9,025.01	1,913.55
26 05 13 16-0092	MLF 2/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	9,688.42	1,913.55
26 05 13 16-0093	MLF 3/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	11,011.53	1,997.41
26 05 13 16-0094	MLF 4/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	11,272.15	1,997.41
26 05 13 16-0095	MLF 250 MCM, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	12,922.47	2,088.81
26 05 13 16-0096	MLF 350 MCM, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	14,573.09	2,137.80
26 05 13 16-0097	MLF 500 MCM, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	17,890.45	2,408.01

26 05 13 16-0098 Cross-Linked Polyethylene (XLP) Insulation, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial (26 05 13 16-0086)

Note: Excludes excavation.

26 05 13 16-0099	MLF #1 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	6,267.64	
26 05 13 16-0100	MLF 1/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	6,966.60	
26 05 13 16-0101	MLF 2/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	7,630.01	
26 05 13 16-0102	MLF 3/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	8,979.59	
26 05 13 16-0103	MLF 4/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	9,240.21	
26 05 13 16-0104	MLF 250 MCM, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	11,003.94	
26 05 13 16-0105	MLF 350 MCM, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	12,657.63	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 05 13 16-0106	MLF	500 MCM, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	15,701.36	
26 05 13 16-0107		Cross-Linked Polyethylene (XLP) Insulation, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial) (26 05 13 16-0086)		
26 05 13 16-0108	MLF	#1 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	5,805.93	861.61
26 05 13 16-0109	MLF	1/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	6,349.58	992.79
26 05 13 16-0110	MLF	2/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	7,966.63	1,165.45
26 05 13 16-0111	MLF	3/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	9,520.09	1,332.81
26 05 13 16-0112	MLF	4/0 AWG, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	10,341.92	1,546.43
26 05 13 16-0113	MLF	250 MCM, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	12,430.62	1,800.25
26 05 13 16-0114	MLF	350 MCM, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	14,740.36	2,097.76
26 05 13 16-0115	MLF	500 MCM, XLP, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	18,272.98	2,436.74
26 05 13 16-0116		Ethylene-Propylene Rubber (EPR) Insulation, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable (26 05 13 16-0085)		
26 05 13 16-0117		Ethylene-Propylene Rubber (EPR), 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct (26 05 13 16-0116)		
26 05 13 16-0118	MLF	#4 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	8,046.71	1,913.55
26 05 13 16-0119	MLF	#2 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	8,710.46	1,913.55
26 05 13 16-0120	MLF	#1 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	8,963.64	1,913.55
26 05 13 16-0121	MLF	1/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	9,788.41	1,913.55
26 05 13 16-0122	MLF	2/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	10,571.24	1,913.55
26 05 13 16-0123	MLF	3/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	12,094.79	1,997.41
26 05 13 16-0124	MLF	4/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	12,402.33	1,997.41
26 05 13 16-0125	MLF	250 MCM, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	14,308.54	2,088.81
26 05 13 16-0126	MLF	350 MCM, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	16,234.24	2,137.80
26 05 13 16-0127	MLF	500 MCM, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed In Duct	20,027.12	2,408.01
26 05 13 16-0128		Ethylene-Propylene Rubber (EPR), 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial (26 05 13 16-0116) Note: Excludes excavation.		
26 05 13 16-0129	MLF	#1 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	6,905.24	
26 05 13 16-0130	MLF	1/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	7,730.00	
26 05 13 16-0131	MLF	2/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	8,512.83	
26 05 13 16-0132	MLF	3/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	10,062.85	
26 05 13 16-0133	MLF	4/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	10,370.38	
26 05 13 16-0134	MLF	250 MCM, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	12,385.97	
26 05 13 16-0135	MLF	350 MCM, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	14,310.21	
26 05 13 16-0136	MLF	500 MCM, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Direct Burial	17,838.03	
26 05 13 16-0137		Ethylene-Propylene Rubber (EPR), 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial) (26 05 13 16-0116)		
26 05 13 16-0138	MLF	#1 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	6,443.53	861.61
26 05 13 16-0139	MLF	1/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	7,612.98	992.79
26 05 13 16-0140	MLF	2/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	8,849.45	1,165.45
26 05 13 16-0141	MLF	3/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	10,603.35	1,332.81
26 05 13 16-0142	MLF	4/0 AWG, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	11,472.09	1,546.43
26 05 13 16-0143	MLF	250 MCM, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	13,816.69	1,800.25
26 05 13 16-0144	MLF	350 MCM, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	16,401.51	2,097.76
26 05 13 16-0145	MLF	500 MCM, EPR, 15 KV, Shielded, Single Copper Conductor, 133% Insulation Cable, Installed On Poles (Aerial)	20,409.65	2,436.74
26 05 13 16-0146		15 KV Non-Shielded Single Copper Conductor (26 05 13 16-0085)		
26 05 13 16-0147	MLF	1/0 AWG, 15 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct	10,556.67	1,920.25
26 05 13 16-0148	MLF	2/0 AWG, 15 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct	9,232.39	1,966.16
26 05 13 16-0149	MLF	3/0 AWG, 15 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct	13,557.54	2,012.06
26 05 13 16-0150	MLF	350 MCM, 15 KV, Non-Shielded, Single Copper Conductor Cable, Installed In Duct	18,427.32	2,146.14
26 05 13 16-0151		Shielded, Armored Copper, 15 KV, 3 Conductor Cable (26 05 13 16-0085) Note: Laid in cable tray or hung in vertical cable shaft.		
26 05 13 16-0152		Galvanized Steel Interlocked Armor Cable (26 05 13 16-0151)		
26 05 13 16-0153	LF	3 Conductors, #2 AWG, TC, 15 KV, Galvanized Armored Shielded Cable, Laid In Cable Tray Or Hung Vertically	51.98	14.64
26 05 13 16-0154	LF	3 Conductors, 1/0 AWG, TC, 15 KV, Galvanized Armored Shielded Cable, Laid In Cable Tray Or Hung Vertically	61.52	15.60
26 05 13 16-0155		Aluminum Interlocked Armor Cable (26 05 13 16-0151)		
26 05 13 16-0156	LF	3 Conductors, #2 AWG, TC, 15 KV, Aluminum Armored Shielded Cable, Laid In Cable Tray Or Hung Vertically	51.98	14.64
26 05 13 16-0157	LF	3 Conductor, 1/0 AWG, TC, 15 KV, Aluminum Armored Shielded Cable, Laid In Cable Tray Or Hung Vertically	61.52	15.60
26 05 13 16-0158		Type URD, 15 KV Primary Concentric UD Cable (26 05 13 16-0085) Note: 0.175" XLPE insulation, copper conductor.		

26 Electrical**26 05 Common Work Results for Electrical****26 05 13 Medium-Voltage Cables**

MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 05 13 16-0159 MLF #4 AWG, Type URD (XLPE), 15 KV, Shielded, Single Conductor Cable, Installed In Conduit	3,741.47	960.19
26 05 13 16-0160 MLF #2 AWG, Type URD (XLPE), 15 KV, Shielded, Single Conductor Cable, Installed In Conduit	4,434.07	1,048.44
26 05 13 16-0161 MLF #1 AWG, Type URD (XLPE), 15 KV, Shielded, Single Conductor Cable, Installed In Conduit	5,296.03	1,184.57
26 05 13 16-0162 MLF 1/0 AWG, Type URD (XLPE), 15 KV, Shielded, Single Conductor Cable, Installed In Conduit	6,867.47	1,455.48
26 05 13 16-0163 MLF 2/0 AWG, Type URD (XLPE), 15 KV, Shielded, Single Conductor Cable, Installed In Conduit	7,821.77	1,638.54
26 05 13 16-0164 MLF 3/0 AWG, Type URD (XLPE), 15 KV, Shielded, Single Conductor Cable, Installed In Conduit	9,627.15	1,824.21
26 05 13 16-0165 MLF 4/0 AWG, Type URD (XLPE), 15 KV, Shielded, Single Conductor Cable, Installed In Conduit	10,817.44	2,042.02
26 05 13 16-0166 15 KV, URD Copper Cable, Direct Burial (26 05 13 16-0085)		
26 05 13 16-0167 MLF 3 Conductors, #6 AWG, 15 KV, URD Copper Cable, Direct Burial	17,055.84	
26 05 13 16-0168 Wire Connections (26 05 13 16-0001)		
26 05 13 16-0169 Medium Voltage Up To 5 KV (26 05 13 16-0168)		
26 05 13 16-0170 Shielded One Conductor Cable Splice (26 05 13 16-0169)		
26 05 13 16-0171 EA #6 AWG Cable Splice, To 5 KV One Conductor, Shielded Medium Voltage To 5 KV	379.72	122.99
26 05 13 16-0172 EA #2 AWG Cable Splice, To 5 KV One Conductor, Shielded Medium Voltage To 5 KV	509.80	122.99
26 05 13 16-0173 EA 1/0 AWG Cable Splice, To 5 KV One Conductor, Shielded Medium Voltage To 5 KV	509.80	122.99
26 05 13 16-0174 EA 2/0 AWG Cable Splice, To 5 KV One Conductor, Shielded Medium Voltage To 5 KV	546.41	147.59
26 05 13 16-0175 EA 3/0 AWG Cable Splice, To 5 KV One Conductor, Shielded Medium Voltage To 5 KV	546.41	147.59
26 05 13 16-0176 EA 4/0 AWG Cable Splice, To 5 KV One Conductor, Shielded Medium Voltage To 5 KV	546.41	147.59
26 05 13 16-0177 EA 250 MCM Cable Splice, To 5 KV One Conductor, Shielded Medium Voltage To 5 KV	595.21	172.19
26 05 13 16-0178 EA 350 MCM Cable Splice, To 5 KV One Conductor, Shielded Medium Voltage To 5 KV	595.21	172.19
26 05 13 16-0179 EA 500 MCM Cable Splice, To 5 KV One Conductor, Shielded Medium Voltage To 5 KV	595.21	172.19
26 05 13 16-0180 Cable Termination Without Stress Cone (26 05 13 16-0169)		
26 05 13 16-0181 EA #6 To 4/0 AWG Cable Termination Without Stress Cone, Medium Voltage To 5 KV	568.93	147.59
26 05 13 16-0182 EA 250 To 500 MCM Cable Termination Without Stress Cone, Medium Voltage To 5 KV	656.51	172.19
26 05 13 16-0183 Cable Termination With Stress Cone (26 05 13 16-0169)		
26 05 13 16-0184 EA #6 To 4/0 AWG Cable Termination With Stress Cone, Medium Voltage To 5 KV	1,703.53	295.18
26 05 13 16-0185 EA 250 To 500 MCM Cable Termination With Stress Cone, Medium Voltage To 5 KV	2,341.36	405.87
26 05 13 16-0186 Connect To Pothead, Pothead Included (26 05 13 16-0169)		
26 05 13 16-0187 EA #6 To 4/0 AWG Connection To Pothead (Included) Medium Voltage To 5 KV	1,782.09	295.18
26 05 13 16-0188 EA 250 To 500 MCM Connection To Pothead (Included) Medium Voltage To 5 KV	2,283.29	338.23
26 05 13 16-0189 Two Conductor Pothead (26 05 13 16-0169)		
Note: Includes 5 KV pothead.		
26 05 13 16-0190 EA #6 To 4/0 AWG, Two Conductors, 5 KV Pothead (Included) Medium Voltage To 5 KV	1,293.22	405.87
26 05 13 16-0191 EA 250 To 350 MCM, Two Conductors, 5 KV Pothead (Included) Medium Voltage To 5 KV	1,734.83	516.57
26 05 13 16-0192 EA 400 To 700 MCM, Two Conductors, 5 KV Pothead (Included) Medium Voltage To 5 KV	2,660.15	585.69
26 05 13 16-0193 EA 750 MCM, Two Conductors, 5 KV Pothead (Included) Medium Voltage To 5 KV	4,344.19	683.34
26 05 13 16-0194 EA 1,000 MCM, Two Conductors, 5 KV Pothead (Included) Medium Voltage To 5 KV	8,005.08	1,024.89
26 05 13 16-0195 Three Conductor Pothead (26 05 13 16-0169)		
Note: Includes 5 KV pothead.		
26 05 13 16-0196 EA #6 To 4/0 AWG, Three Conductors, 5 KV Pothead (Included) Medium Voltage To 5 KV	5,317.76	590.36
26 05 13 16-0197 EA 250 To 500 MCM, Three Conductors, 5 KV Pothead (Included) Medium Voltage To 5 KV	5,820.11	688.75
26 05 13 16-0198 Copper Cable Splice, Crimp Compression Connection (26 05 13 16-0169)		
Note: For bare wire.		
26 05 13 16-0199 EA #6 AWG Crimp Compression Connection For Bare Copper Wire	80.60	
26 05 13 16-0200 EA #4 AWG Crimp Compression Connection For Bare Copper Wire	89.14	
26 05 13 16-0201 EA #3 AWG Crimp Compression Connection For Bare Copper Wire	103.92	
26 05 13 16-0202 EA #2 AWG Crimp Compression Connection For Bare Copper Wire	117.61	
26 05 13 16-0203 EA #1 AWG Crimp Compression Connection For Bare Copper Wire	132.84	
26 05 13 16-0204 EA 1/0 AWG Crimp Compression Connection For Bare Copper Wire	147.46	
26 05 13 16-0205 EA 2/0 AWG Crimp Compression Connection For Bare Copper Wire	161.82	
26 05 13 16-0206 EA 3/0 AWG Crimp Compression Connection For Bare Copper Wire	177.25	
26 05 13 16-0207 EA 4/0 AWG Crimp Compression Connection For Bare Copper Wire	192.03	
26 05 13 16-0208 EA 250 MCM Crimp Compression Connection For Bare Copper Wire	207.28	
26 05 13 16-0209 EA 300 MCM Crimp Compression Connection For Bare Copper Wire	223.13	
26 05 13 16-0210 EA 350 MCM Crimp Compression Connection For Bare Copper Wire	237.55	
26 05 13 16-0211 EA 400 MCM Crimp Compression Connection For Bare Copper Wire	268.89	
26 05 13 16-0212 EA 500 MCM Crimp Compression Connection For Bare Copper Wire	301.69	
26 05 13 16-0213 Aluminum Cable Splice, Crimp Compression Connection (26 05 13 16-0169)		
Note: For bare wire.		
26 05 13 16-0214 EA #6 AWG Crimp Compression Connection For Bare Aluminum Wire	83.40	
26 05 13 16-0215 EA #4 AWG Crimp Compression Connection For Bare Aluminum Wire	90.69	



MINOR CSI	UOM	DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 05 13 16-0216	EA	#2 AWG Crimp Compression Connection For Bare Aluminum Wire	122.72	
26 05 13 16-0217	EA	#1 AWG Crimp Compression Connection For Bare Aluminum Wire	145.84	
26 05 13 16-0218	EA	1/0 AWG Crimp Compression Connection For Bare Aluminum Wire	159.73	
26 05 13 16-0219	EA	2/0 AWG Crimp Compression Connection For Bare Aluminum Wire	173.54	
26 05 13 16-0220	EA	3/0 AWG Crimp Compression Connection For Bare Aluminum Wire	190.85	
26 05 13 16-0221	EA	4/0 AWG Crimp Compression Connection For Bare Aluminum Wire	206.42	
26 05 13 16-0222	EA	250 MCM Crimp Compression Connection For Bare Aluminum Wire	221.33	
26 05 13 16-0223	EA	300 MCM Crimp Compression Connection For Bare Aluminum Wire	236.87	
26 05 13 16-0224	EA	350 MCM Crimp Compression Connection For Bare Aluminum Wire	251.97	
26 05 13 16-0225	EA	400 MCM Crimp Compression Connection For Bare Aluminum Wire	269.55	
26 05 13 16-0226	EA	500 MCM Crimp Compression Connection For Bare Aluminum Wire	327.46	
26 05 13 16-0227		15 KV (26 05 13 16-0168)		
26 05 13 16-0228		Single Conductor Pothead On Racks (26 05 13 16-0227) Note: Includes pothead.		
26 05 13 16-0229	EA	#2 To 4/0 AWG, Single Conductor, 15 KV Pothead (Included), On Racks	1,570.71	516.57
26 05 13 16-0230	EA	250 To 500 MCM, Single Conductor, 15 KV Pothead (Included), On Racks	2,004.59	639.55
26 05 13 16-0231		Two Conductor Pothead On Rack (26 05 13 16-0227) Note: Includes pothead.		
26 05 13 16-0232	EA	#2 To 4/0 AWG, Two Conductors, 15 KV Pothead (Included), On Racks	2,312.90	787.14
26 05 13 16-0233	EA	250 To 500 MCM, Two Conductors, 15 KV Pothead (Included), On Racks	2,782.00	934.74
26 05 13 16-0234		Three Conductor Pothead On Rack (26 05 13 16-0227) Note: Includes pothead.		
26 05 13 16-0235	EA	#2 To 4/0 AWG, Three Conductors, 15 KV Pothead (Included), On Racks	2,952.44	1,020.83
26 05 13 16-0236	EA	250 To 500 MCM, Three Conductors, 15 KV Pothead (Included), On Racks	3,677.88	1,279.12
26 05 13 16-0237		Stress Relief Cone On Rack (26 05 13 16-0227)		
26 05 13 16-0238	EA	#2 To 4/0 AWG Stress Relief Cone, On Rack	1,475.79	516.57
26 05 13 16-0239	EA	250 To 500 MCM Stress Relief Cone, On Rack	1,897.87	639.55
26 05 13 16-0240		Grounded, Shielded Cable Splice (26 05 13 16-0227)		
26 05 13 16-0241	EA	#2 To 4/0 AWG Cable Splice, Grounded, Shielded, 15 KV	1,016.12	381.27
26 05 13 16-0242	EA	250 To 500 MCM Cable Splice, Grounded, Shielded, 15 KV	1,301.78	491.96
26 05 13 16-0243	EA	3/0 To 500 MCM 15 KV Splice Kit, Cable Splice, Grounded, Shielded, Universal Mechanical Type CE - CE 2-Way	6,292.37	1,352.91
26 05 13 16-0244	EA	3/0 To 500 MCM 15 KV Splice Kit, Cable Splice, Grounded, Shielded, Universal Mechanical Type CE - CE - CE 3-Way	8,089.35	1,475.90
26 05 13 16-0245		Cable Termination (26 05 13 16-0227)		
26 05 13 16-0246	EA	#2 To 3/0 AWG Cable Termination 15 KV	675.47	215.24
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	129.14	
26 05 13 16-0247	EA	4/0 To 250 MCM Cable Termination 15 KV	853.23	276.73
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	166.04	
26 05 13 16-0248	EA	350 To 500 MCM Cable Termination 15 KV	1,057.94	338.23
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	202.94	
26 05 13 16-0249	EA	#2 To 3/0 AWG Cable Elbow Termination 15 KV	430.80	122.99
		For Personal Protective Equipment (Arc Flash) When Working On Energized Equipment, Add	73.80	
26 05 13 16-0250		Stress Cones, 5-15 KV, 4 Skirted (26 05 13 16-0227)		
26 05 13 16-0251	EA	#4 To 1/0 AWG Stress Cones, 5-15 KV, 4 Skirted	866.51	159.89
26 05 13 16-0252	EA	2/0 To 3/0 AWG Stress Cones, 5-15 KV, 4 Skirted	987.17	176.71
26 05 13 16-0253	EA	4/0 To 350 MCM Stress Cones, 5-15 KV, 4 Skirted	1,172.97	193.39
26 05 13 16-0254	EA	400 To 500 MCM Stress Cones, 5-15 KV, 4 Skirted	1,509.60	222.82
26 05 13 16-0255		Stress Cones, 5-15 KV, 6 Skirted (26 05 13 16-0227)		
26 05 13 16-0256	EA	#4 To 1/0 AWG Stress Cones, 5-15 KV, 6 Skirted	1,733.06	320.32
26 05 13 16-0257	EA	2/0 To 3/0 AWG Stress Cones, 5-15 KV, 6 Skirted	1,974.59	353.43
26 05 13 16-0258	EA	4/0 To 350 MCM Stress Cones, 5-15 KV, 6 Skirted	2,331.60	379.60
26 05 13 16-0259	EA	400 To 500 MCM Stress Cones, 5-15 KV, 6 Skirted	3,019.19	445.62
26 05 13 16-0260		35 KV (26 05 13 16-0168)		
26 05 13 16-0261		35 KV One Conductor Splice (26 05 13 16-0260)		
26 05 13 16-0262	EA	#1 Stranded To 4/0 Stranded, 35 KV, Cable Splicing	2,539.32	
26 05 13 16-0263		Cable Termination (26 05 13 16-0260)		
26 05 13 16-0264	EA	#2 To 3/0 AWG Cable Termination, 35 KV	591.04	147.71
26 05 13 16-0265	EA	3/0 AWG To 250 MCM, 35 KV, Cable Termination	807.37	222.87
26 05 13 16-0266	EA	350 To 500 MCM Cable Termination 35 KV	937.10	238.36

26 Electrical**26 05 Common Work Results for Electrical****26 05 13 Medium-Voltage Cables**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT UNIT COST DEMOLITION UNIT COST

26 05 13 16-0267 EA #2 To 3/0 AWG Cable Elbow Termination 35 KV 469.02 122.99

26 05 13 16-0268 70 KV (26 05 13 16-0168)

26 05 13 16-0269 Cable Splice (26 05 13 16-0268)

26 05 13 16-0270 EA 350 MCM, 70 KV, Cable Splicing.....13,531.89

26 05 13 16-0271 EA #2 To 4/0, 70 KV, Cable Splicing 2,635.34

26 05 19 Low-Voltage Electrical Power Conductors and Cables (26 05)**26 05 19 13 Undercarpet Electrical Power Cables (26 05 19)**

26 05 19 13-0001 Under Carpet Power System (26 05 19 13)

Note: Includes laying out, floor prep, taping, drill floor, folds, identifying, tagging and testing

26 05 19 13-0002 LF 3-Conductor, #12 Flat Cable With Attached Bottom Shield 6.46 0.56

26 05 19 13-0003 LF Steel, Top Shield 14.99 0.56

26 05 19 13-0004 EA 3-Conductor, Splice 36.32 9.55

26 05 19 13-0005 EA Splice Top Shield For 3 Conductor 10.41 4.49

26 05 19 13-0006 EA 3-Conductor, Tap 45.34 11.24

26 05 19 13-0007 EA Insulating Patch, Splice Tap And End 71.07 9.55

26 05 19 13-0008 EA 3-Conductor, Transition Block Assembly 46.40 5.61

26 05 19 13-0009 EA Single, Direct Connected, Receptacle With Box 139.90 17.97

26 05 19 13-0010 EA Dual, Direct Connected, Receptacle With Box 233.23 28.09

26 05 19 13-0011 EA Floor Mounted Box With Cover 232.68 22.48

26 05 19 13-0012 LF 5-Conductor, #12 Cable With Attached Bottom Shield 10.29 0.56

26 05 19 13-0013 LF Steel, Top Shield For 5-Conductor Cable 10.21 0.56

26 05 19 13-0014 EA 5-Conductor, Splice 36.82 9.55

26 05 19 13-0015 EA 5-Conductor, Transition Block Assembly 61.48 5.61

26 05 19 13-0016 EA Box, Wall, Flush With Cover 103.84 22.48

26 05 19 13-0017 EA Telephone, Transition Fitting Wall Box 68.26 18.54

26 05 19 13-0018 EA RJ-45, Telephone Fitting With Duplex Jack And Cover 89.99 21.35

26 05 19 13-0019 EA Miniature Telephone With Duplex RJ-45 38.76 8.43

26 05 19 13-0020 LF 4-Pair, Level 5, Under Carpet Telephone Wire 2.24 0.56

26 05 19 13-0021 EA BNC, Coax Plug, Connector 30.71 11.24

26 05 19 13-0022 EA TNC, Coax Plug, Connector 30.71 11.24

26 05 19 13-0023 CLF Under Carpet Power System; Flat RG A/U 59, 75 Ohm, RG A/U 62, 93 Ohm, RG A/U 58, 50 Ohm 161.59 56.18

26 05 19 16 Low-Voltage, Single-and Multi-Conductor Cables (26 05 19)

26 05 19 16-0001 Cable Installation Methods (26 05 19 16)

26 05 19 16-0002 Pull Cord (26 05 19 16-0001)

Note: Left in conduit for others to pull cable. Not to be used when contractor has priced new wire in a conduit. Priced when owner wants a pull cord left in a conduit for owner to pull wire at a later time.

26 05 19 16-0003 LF Pull String Installed To Remain In Place, In Existing Conduit 0.39

26 05 19 16-0004 LF Pull String Installed To Remain In Place, In New Conduits 0.20

26 05 19 16-0005 LF 1/4" Nylon Pull Cord Installed To Remain In Place, In Existing Conduit 0.67

26 05 19 16-0006 LF 1/4" Nylon Pull Cord Installed To Remain In Place, In New Conduits 0.43

26 05 19 16-0007 Bore Conduit Into Dirt Or Sand (26 05 19 16-0001)

Note: For installation under roads, driveways or other structures up to 20'.

26 05 19 16-0008 LF Bore 1" To 4" Conduit Into Dirt Or Sand 3.50

26 05 19 16-0009 LF Bore 5" To 8" Conduit Into Dirt Or Sand 4.45

26 05 19 16-0010 EA Boring Minimum Set-Up Charge 489.26

Note: For projects where the total boring charge is less than the minimum set-up charge. Use this item exclusively. This item should not be used in conjunction with any other items in this section.

26 05 19 16-0011 Wire and Cable (26 05 19 16)

Note: Pulled in conduit except as noted. Includes pull wires, pulling branch circuit conductors, splicing (#8 and lighter), identifying, tagging and testing. All conductors are copper except as otherwise noted. No special set-up is required. For tasks installed in conduit, tasks exclude conduit. Excludes terminations. See CSI section 26 05 33 13-0058 for various conduit types.

26 05 19 16-0012 600 Volt Wire (26 05 19 16-0011)

26 05 19 16-0013 Single Solid Conductor, Copper (26 05 19 16-0012)

26 05 19 16-0014 MLF #14 AWG, Type THHN-THWN, 600 Volt, Copper, Single Solid Cable, Installed In Conduit 669.01 272.71

26 05 19 16-0015 MLF #12 AWG, Type THHN-THWN, 600 Volt, Copper, Single Solid Cable, Installed In Conduit 835.16 320.81

26 05 19 16-0016 MLF #10 AWG, Type THHN-THWN, 600 Volt, Copper, Single Solid Cable, Installed In Conduit 1,029.62 392.27

26 05 19 16-0017 MLF #14 AWG, Type XHHW, 600 Volt, Copper, Single Solid Cable, Installed In Conduit 855.52 272.71

26 05 19 16-0018 MLF #12 AWG, Type XHHW, 600 Volt, Copper, Single Solid Cable, Installed In Conduit 1,031.95 320.81

26 05 19 16-0019 MLF #10 AWG, Type XHHW, 600 Volt, Copper, Single Solid Cable, Installed In Conduit 1,234.72 392.27

26 05 19 16-0020 Power Cable, Stranded Conductor, Copper (26 05 19 16-0012)

26 05 19 16-0021 Power Cable, Stranded, Single Conductor, XHHW-2 (26 05 19 16-0020)

26 05 19 16-0022 MLF #16 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit 699.65 224.73



MINOR CSI UOM DESCRIPTION	TOTAL DIRECT UNIT COST	DEMOLITION UNIT COST
26 05 19 16-0023 MLF #14 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	826.58	269.68
26 05 19 16-0024 MLF #12 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	1,015.03	314.63
26 05 19 16-0025 MLF #10 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	1,244.98	359.58
26 05 19 16-0026 MLF #8 AWG, XLP (XHHW-2), 600 Volt, Copper, Single Stranded, Power Cable, Installed In Conduit.....	1,655.16	449.47
26 05 19 16-0027 MLF #6 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	2,227.17	539.36
26 05 19 16-0028 MLF #4 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	3,040.62	674.21
26 05 19 16-0029 MLF #3 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	3,593.16	764.10
26 05 19 16-0030 MLF #2 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	4,247.91	854.00
26 05 19 16-0031 MLF #1 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	5,251.03	943.89
26 05 19 16-0032 MLF 1/0 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	6,293.05	1,078.73
26 05 19 16-0033 MLF 2/0 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	7,528.25	1,213.57
26 05 19 16-0034 MLF 3/0 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	8,997.43	1,348.41
26 05 19 16-0035 MLF 4/0 AWG, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	10,764.70	1,483.25
26 05 19 16-0036 MLF 250 MCM, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	11,414.05	1,618.09
26 05 19 16-0037 MLF 300 MCM, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	13,512.57	1,752.94
26 05 19 16-0038 MLF 350 MCM, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	14,417.14	1,887.77
26 05 19 16-0039 MLF 400 MCM, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	16,114.93	2,022.62
26 05 19 16-0040 MLF 500 MCM, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	18,636.21	2,157.46
26 05 19 16-0041 MLF 600 MCM, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	21,443.14	2,337.25
26 05 19 16-0042 MLF 750 MCM, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	32,472.01	2,606.92
26 05 19 16-0043 MLF 1,000 MCM, XLP (XHHW-2), 600 Volt Copper, Single Stranded, Power Cable, Installed In Conduit.....	45,721.09	3,056.40
26 05 19 16-0044 Power Cable, Stranded, Multi Conductor, XHHW-2 (26 05 19 16-0020)		
26 05 19 16-0045 MLF 2 Conductors, #14 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	1,653.16	539.25
26 05 19 16-0046 MLF 3 Conductors, #14 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	2,030.27	629.38
26 05 19 16-0047 MLF 4 Conductors, #14 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	2,519.86	764.10
26 05 19 16-0048 MLF 6 Conductors, #14 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	2,992.15	831.18
26 05 19 16-0049 MLF 7 Conductors, #14 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	3,257.54	876.35
26 05 19 16-0050 MLF 9 Conductors, #14 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	3,786.64	966.14
26 05 19 16-0051 MLF 10 Conductors, #14 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	2,669.84	1,007.04
26 05 19 16-0052 MLF 12 Conductors, #14 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	4,581.55	1,101.21
26 05 19 16-0053 MLF 14 Conductors, #14 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	5,055.28	1,168.85
26 05 19 16-0054 MLF 24 Conductors, #14 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	7,365.40	1,483.36
26 05 19 16-0055 MLF 37 Conductors, #14 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	11,143.93	2,202.40
26 05 19 16-0056 MLF 2 Conductors, #12 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	2,200.32	629.38
26 05 19 16-0057 MLF 3 Conductors, #12 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	2,595.72	764.10
26 05 19 16-0058 MLF 4 Conductors, #12 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	3,161.15	898.94
26 05 19 16-0059 MLF 2 Conductors, #10 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	2,713.84	808.71
26 05 19 16-0060 MLF 3 Conductors, #10 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	3,508.10	987.93
26 05 19 16-0061 MLF 4 Conductors, #10 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	4,531.01	1,258.74
26 05 19 16-0062 MLF 6 Conductors, #10 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	6,122.89	1,618.65
26 05 19 16-0063 MLF 9 Conductors, #10 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	8,283.53	2,067.67
26 05 19 16-0064 MLF 2 Conductors, #8 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	3,366.53	921.42
26 05 19 16-0065 MLF 3 Conductors, #8 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	4,291.30	1,078.73
26 05 19 16-0066 MLF 4 Conductors, #8 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	5,553.19	1,370.88
26 05 19 16-0067 MLF 2 Conductors, #6 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	4,342.08	1,033.78
26 05 19 16-0068 MLF 3 Conductors, #6 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	5,838.74	1,280.99
26 05 19 16-0069 MLF 4 Conductors, #6 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	7,464.74	1,579.88
26 05 19 16-0070 MLF 2 Conductors, #4 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	5,845.74	1,254.25
26 05 19 16-0071 MLF 3 Conductors, #4 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	7,651.85	1,430.60
26 05 19 16-0072 MLF 4 Conductors, #4 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	9,895.92	1,794.24
26 05 19 16-0073 MLF 2 Conductors, #2 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	8,045.21	1,527.75
26 05 19 16-0074 MLF 3 Conductors, #2 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	10,609.87	1,708.44
26 05 19 16-0075 MLF 4 Conductors, #2 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	14,070.11	2,247.35
26 05 19 16-0076 MLF 3 Conductors, #1 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	14,066.64	2,157.12
26 05 19 16-0077 MLF 4 Conductors, #1 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	18,304.39	2,695.70
26 05 19 16-0078 MLF 3 Conductors, 1/0 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	16,632.80	2,337.70
26 05 19 16-0079 MLF 3 Conductors, 2/0 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	20,222.15	2,695.70
26 05 19 16-0080 MLF 3 Conductors, 3/0 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	24,741.53	3,144.94
26 05 19 16-0081 MLF 4 Conductors, 3/0 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	32,614.31	4,043.55
26 05 19 16-0082 MLF 3 Conductors, 4/0 AWG, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	30,166.85	3,598.80
26 05 19 16-0083 MLF 3 Conductors, 250 MCM, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	32,215.19	4,043.55
26 05 19 16-0084 MLF 3 Conductors, 350 MCM, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	40,329.82	4,494.71
26 05 19 16-0085 MLF 3 Conductors, 500 MCM, 600 Volt, XLP (XHHW-2), Copper, Stranded, Power Cable, Installed In Conduit.....	52,077.46	4,939.90
26 05 19 16-0086 Underground Feeder And Branch Circuit Suitable, Single Stranded Copper		
(26 05 19 16-0012)		
Note: Direct bury.		
26 05 19 16-0087 MLF #14 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	1,003.36	
26 05 19 16-0088 MLF #12 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	1,181.13	
26 05 19 16-0089 MLF #10 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	1,484.12	
26 05 19 16-0090 MLF #8 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	1,955.04	
26 05 19 16-0091 MLF #6 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	2,745.31	
26 05 19 16-0092 MLF #4 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	3,619.87	
26 05 19 16-0093 MLF #2 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	5,243.65	
26 05 19 16-0094 MLF #1 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	6,532.76	
26 05 19 16-0095 MLF 1/0 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	8,019.59	
26 05 19 16-0096 MLF 2/0 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	9,724.75	
26 05 19 16-0097 MLF 3/0 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	11,732.06	

26 Electrical**26 05 Common Work Results for Electrical****26 05 19 Low-Voltage Electrical Power Conductors and Cables**

MINOR
CSI UOM DESCRIPTION

TOTAL DIRECT DEMOLITION
UNIT COST UNIT COST

26 05 19 16-0098	MLF	4/0 AWG, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	13,256.34	
26 05 19 16-0099	MLF	250 MCM, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	14,354.56	
26 05 19 16-0100	MLF	300 MCM, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	17,199.83	
26 05 19 16-0101	MLF	350 MCM, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	19,235.80	
26 05 19 16-0102	MLF	400 MCM, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	21,619.02	
26 05 19 16-0103	MLF	500 MCM, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	25,624.00	
26 05 19 16-0104	MLF	600 MCM, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	30,276.19	
26 05 19 16-0105	MLF	750 MCM, Type USE, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	48,211.80	
26 05 19 16-0106	MLF	#14 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	820.41	
26 05 19 16-0107	MLF	#12 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	982.27	
26 05 19 16-0108	MLF	#10 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	1,173.47	
26 05 19 16-0109	MLF	#8 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	1,440.67	
26 05 19 16-0110	MLF	#6 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	1,847.04	
26 05 19 16-0111	MLF	#4 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	2,449.61	
26 05 19 16-0112	MLF	#2 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	3,316.50	
26 05 19 16-0113	MLF	#1 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	3,913.87	
26 05 19 16-0114	MLF	1/0 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	4,431.90	
26 05 19 16-0115	MLF	2/0 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	4,994.69	
26 05 19 16-0116	MLF	3/0 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	5,794.72	
26 05 19 16-0117	MLF	4/0 AWG, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	6,757.64	
26 05 19 16-0118	MLF	250 MCM, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	7,655.27	
26 05 19 16-0119	MLF	300 MCM, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	8,600.97	
26 05 19 16-0120	MLF	350 MCM, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	9,625.65	
26 05 19 16-0121	MLF	400 MCM, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	10,684.72	
26 05 19 16-0122	MLF	500 MCM, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	12,414.22	
26 05 19 16-0123	MLF	750 MCM, XLP (XHHW), 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	20,608.07	
26 05 19 16-0124	MLF	#14 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	685.54	
26 05 19 16-0125	MLF	#12 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	851.19	
26 05 19 16-0126	MLF	#10 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	1,052.45	
26 05 19 16-0127	MLF	#8 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	1,474.10	
26 05 19 16-0128	MLF	#6 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	2,001.21	
26 05 19 16-0129	MLF	#4 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	2,640.05	
26 05 19 16-0130	MLF	#2 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	3,766.08	
26 05 19 16-0131	MLF	#1 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	4,481.92	
26 05 19 16-0132	MLF	1/0 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	5,213.72	
26 05 19 16-0133	MLF	2/0 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	5,914.13	
26 05 19 16-0134	MLF	3/0 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	7,008.60	
26 05 19 16-0135	MLF	4/0 AWG, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	8,344.73	
26 05 19 16-0136	MLF	250 MCM, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	9,789.41	
26 05 19 16-0137	MLF	300 MCM, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	11,294.24	
26 05 19 16-0138	MLF	350 MCM, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	12,911.00	
26 05 19 16-0139	MLF	400 MCM, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	14,471.28	
26 05 19 16-0140	MLF	500 MCM, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	17,168.05	
26 05 19 16-0141	MLF	600 MCM, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	20,625.98	
26 05 19 16-0142	MLF	750 MCM, Type THHN-THWN, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	32,516.55	
26 05 19 16-0143	MLF	#2 AWG, Type EPR, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	5,531.27	
26 05 19 16-0144	MLF	1/0 AWG, Type EPR, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	7,916.31	
26 05 19 16-0145	MLF	2/0 AWG, Type EPR, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	8,791.99	
26 05 19 16-0146	MLF	3/0 AWG, Type EPR, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	9,981.23	
26 05 19 16-0147	MLF	4/0 AWG, Type EPR, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	11,090.41	
26 05 19 16-0148	MLF	250 MCM, Type EPR, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	11,955.10	
26 05 19 16-0149	MLF	350 MCM, Type EPR, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	17,068.88	
26 05 19 16-0150	MLF	400 MCM, Type EPR, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	18,551.16	
26 05 19 16-0151	MLF	500 MCM, Type EPR, 600 Volt, Underground Feeder And Branch Circuits, Single Stranded Copper Cable.....	21,132.24	

26 05 19 16-0152 600 Volt, Armored Cable, Copper Conductors (26 05 19 16-0012)**26 05 19 16-0153 ACTHH, Solid (26 05 19 16-0152)**

26 05 19 16-0154	MLF	1 Conductor, #8 AWG, Type ACT, Solid, Armored Cable.....	2,741.96	737.95
26 05 19 16-0155	MLF	1 Conductor, #6 AWG, Type ACT, Solid, Armored Cable.....	3,167.35	836.34
26 05 19 16-0156	MLF	1 Conductor, #4 AWG, Type ACT, Solid, Armored Cable.....	3,648.31	885.54
26 05 19 16-0157	MLF	2 Conductors, #14 AWG, Type ACTHH, Solid, Armored Cable.....	3,898.54	1,229.92
26 05 19 16-0158	MLF	2 Conductors, #12 AWG, Type ACTHH, Solid, Armored Cable.....	4,156.96	1,377.26
26 05 19 16-0159	MLF	2 Conductors, #10 AWG, Type ACTHH, Solid, Armored Cable.....	5,336.17	1,525.95
26 05 19 16-0160	MLF	2 Conductors, #8 AWG, Type ACTHH, Solid, Armored Cable.....	7,082.55	1,673.30
26 05 19 16-0161	MLF	3 Conductors, #14 AWG, Type ACTHH, Solid, Armored Cable.....	4,751.10	1,377.26
26 05 19 16-0162	MLF	3 Conductors, #12 AWG, Type ACTHH, Solid, Armored Cable.....	4,949.45	1,525.95